#45863594 ID 88066985

TN
423
.C2
I564
2000
v.3
c.1

IMPERIAL PROJECT
IMPERIAL COUNTY, CALIFORNIA

FINAL
ENVIRONMENTAL IMPACT STATEMENT/
ENVIRONMENTAL IMPACT REPORT

VOLUME III
COMMENTS AND RESPONSES TO COMMENTS

State Clearinghouse No. 95041025

September 2000

Applicant

Glamis Imperial Corporation

Prepared By:

Bureau of Land Management
El Centro Field Office
El Centro, California

County of Imperial
Planning/Building Department
El Centro, California

IMPERIAL PROJECT
FINAL ENVIRONMENTAL IMPACT STATEMENT/
ENVIRONMENTAL IMPACT REPORT

VOLUME III

COMMENTS AND RESPONSES TO COMMENTS

TABLE OF CONTENTS

1 INTRODUCTION

2 RESPONSES TO GENERAL COMMENTS IN SUPPORT OR OPPOSITION TO THE PROJECT AND TO GENERAL COMMENTS ON THE POTENTIAL EFFECTS OF THE PROJECT ON SPECIFIC ENVIRONMENTAL RESOURCES

3 COMMENTS LETTERS CONTAINING SUBSTANTIVE COMMENTS AND RESPONSES TO THESE COMMENTS ON THE DRAFT EIS/EIR

ELECTED OFFICIALS — FEDERAL

COMMENT LETTER A001 RECEIVED FROM UNITED STATES SENATOR BARBARA BOXER, DATED JANUARY 27, 1998
RESPONSE TO COMMENT LETTER A001 ..... A001-3

ELECTED TRIBAL OFFICIALS/REPRESENTATIVES

COMMENT LETTER D001 RECEIVED FROM PAULINE OWL, TRIBAL CULTURAL COMMITTEE CHAIRPERSON, AND MICK JACKSON, SR., TRIBAL PRESIDENT, QUECHAN INDIAN TRIBE, DATED DECEMBER 9, 1997
RESPONSE TO COMMENT LETTER D001 ..... D001-3
COMMENT LETTER D002 RECEIVED FROM KEENI ESCALANTI, SR., VICE PRESIDENT AND PAULINE OWL, CHAIRPERSON, QUECHAN CULTURE COMMITTEE, DATED APRIL 13, 1998
RESPONSE TO COMMENT LETTER D002 ..... D002-6

GOVERNMENT AGENCIES — FEDERAL

COMMENT LETTER E001 RECEIVED FROM DEANNA M. WIEMAN, DEPUTY DIRECTOR, CROSS MEDIA DIVISION, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, DATED MARCH 19, 1998
RESPONSE TO COMMENT LETTER E001 ..... E001-15
COMMENT LETTER E002 RECEIVED FROM UNITED STATES DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE, DATED APRIL 13, 1998
RESPONSE TO COMMENT LETTER E002 ..... E002-7
COMMENT LETTER E003 RECEIVED FROM T. A. MANFREDI, COMMUNITY PLANNER, UNITED STATES MARINE CORPS AIR STATION, YUMA, DATED JANUARY 5, 1998
RESPONSE TO COMMENT LETTER E003 ..... E003-3

GOVERNMENT AGENCIES — STATE

COMMENT LETTER F001 RECEIVED FROM JASON MARSHALL, ASSISTANT DIRECTOR, CALIFORNIA DEPARTMENT OF CONSERVATION, OFFICE OF GOVERNMENTAL AND ENVIRONMENTAL RELATIONS, DATED FEBRUARY 26, 1998
RESPONSE TO COMMENT LETTER F001 ..... F001-6
COMMENT LETTER F002 RECEIVED FROM CURT TAUCHER, REGIONAL MANAGER, CALIFORNIA DEPARTMENT OF FISH AND GAME, DATED MARCH 31, 1998
RESPONSE TO COMMENT LETTER F002 ..... F002-5

GOVERNMENT AGENCIES — LOCAL

COMMENT LETTER G001 RECEIVED FROM JACQUES-ANDRE ISTEL, TOWN OF FELICITY, DATED DECEMBER 26, 1997
RESPONSE TO COMMENT LETTER G001 ..... G001-3
COMMENT LETTER G002 RECEIVED FROM LAURA J. SIMONEK, PRINCIPAL ENVIRONMENTAL SCIENTIST, METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA, DATED FEBRUARY 26, 1998
RESPONSE TO COMMENT LETTER G002 ..... G002-7

COMMENT LETTER G003 RECEIVED FROM JACQUES-ANDRE ISTEL, MAYOR, TOWN OF FELICITY, DATED MARCH 26, 1998
RESPONSE TO COMMENT LETTER G003 ..... G003-4
COMMENT LETTER G004 RECEIVED FROM J. DAVID STEIN, MANAGER, SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS, DATED JANUARY 16, 1998
RESPONSE TO COMMENT LETTER G004 ..... G004-9

TRIBAL AGENCIES

COMMENT LETTER H001 RECEIVED FROM LOREY CACHORA, QUECHAN CULTURAL COMMITTEE, FORT YUMA INDIAN RESERVATION, NO DATE
RESPONSE TO COMMENT LETTER H001 ..... H001-9

ORGANIZATIONS/CORPORATIONS

COMMENT LETTER I001 RECEIVED FROM STEVE BAUMANN, VICE PRESIDENT AND GENERAL MANAGER, GLAMIS IMPERIAL CORPORATION, DATED DECEMBER 15, 1997
RESPONSE TO COMMENT LETTER I001 ..... I001-4
COMMENT LETTER I002 RECEIVED FROM DAVID M. CHAMBERS, Ph.D. AND JAMES KUIPERS, P.E., CENTER FOR SCIENCE IN PUBLIC PARTICIPATION, DATED JANUARY 23, 1998
RESPONSE TO COMMENT LETTER I002 ..... I002-30
COMMENT LETTER I003 RECEIVED FROM DAN PURVANCE, GLAMIS IMPERIAL CORP., DATED FEBRUARY 11, 1998
RESPONSE TO COMMENT LETTER I003 ..... I003-2
COMMENT LETTER I004 RECEIVED FROM TOM MYERS, Ph.D., HYDROLOGIC CONSULTANT, DATED FEBRUARY 20, 1998
RESPONSE TO COMMENT LETTER I004 ..... I004-9
COMMENT LETTER I005 RECEIVED FROM BOB ELLIS, COMMUNICATIONS DIRECTOR, DESERT SURVIVORS, DATED FEBRUARY 22, 1998
RESPONSE TO COMMENT LETTER I005 ..... I005-7
COMMENT LETTER I006 RECEIVED FROM CAROL KNOY, PFUSA CALIFORNIA STATE PRESIDENT, DATED FEBRUARY 24, 1998
RESPONSE TO COMMENT LETTER I006 ..... I006-6

COMMENT LETTER I007 RECEIVED FROM BYRON F. LINDSLEY, JR., DIRECTOR, MOUNTAIN DEFENSE LEAGUE, DATED FEBRUARY 25, 1998
RESPONSE TO COMMENT LETTER I007 ..... I007-3
COMMENT LETTER I008 RECEIVED FROM JIM WILSON, LASER, INC., DATED FEBRUARY 26, 1998
RESPONSE TO COMMENT LETTER I008 ..... I008-10
COMMENT LETTER I009 RECEIVED FROM LISA SENECA, RBRIGGAN AND ASSOCIATES, DATED FEBRUARY 26, 1998
RESPONSE TO COMMENT LETTER I009 ..... I009-20
COMMENT LETTER I010 RECEIVED FROM ROGER FLYNN, ESQ., WESTERN MINING ACTION PROJECT, DATED APRIL 10, 1998
RESPONSE TO COMMENT LETTER I010 ..... I010-35
COMMENT LETTER I011 RECEIVED FROM JIM WILSON, DIRECTOR OF LASER, INC., DATED APRIL 10, 1998
RESPONSE TO COMMENT LETTER I011 ..... I011-6
COMMENT LETTER I012 RECEIVED FROM COURTNEY ANN COYLE, ATTORNEY AT LAW, DATED APRIL 12, 1998
RESPONSE TO COMMENT LETTER I012 ..... I012-65
COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998
RESPONSE TO COMMENT LETTER I013 ..... I013-134
COMMENT LETTER I014 RECEIVED FROM FRED CAGLE, Ph.D., PA, TIJUANA RIVER NATIONAL ESTUARINE RESEARCH RESERVE, DATED APRIL 13, 1998
RESPONSE TO COMMENT LETTER I014 ..... I014-3
COMMENT LETTER I015 RECEIVED FROM LISSA ADAMS, BOARD MEMBER, DESERT PROTECTIVE COUNCIL, DATED APRIL 13, 1998
RESPONSE TO COMMENT LETTER I015 ..... I015-24
COMMENT LETTER I016 RECEIVED FROM EDIE HARMON, SIERRA CLUB, SAN DIEGO CHAPTER, DATED DECEMBER 14, 1997
RESPONSE TO COMMENT LETTER I016 ..... I016-3
COMMENT LETTER I017 RECEIVED FROM STEVE BAUMANN, VICE PRESIDENT AND GENERAL MANAGER, GLAMIS IMPERIAL CORPORATION, DATED FEBRUARY 6, 1998
RESPONSE TO COMMENT LETTER I017 ..... I017-5

COMMENT LETTER I018 RECEIVED FROM STEVE BAUMANN, VICE PRESIDENT AND GENERAL MANAGER, GLAMIS IMPERIAL CORPORATION, DATED FEBRUARY 12, 1998
RESPONSE TO COMMENT LETTER I018 ..... I018-13
COMMENT LETTER I019 RECEIVED FROM STEVEN L. HARTMAN, CALIFORNIA NATIVE PLANT SOCIETY, DATED FEBRUARY 16, 1998
RESPONSE TO COMMENT LETTER I019 ..... I019-5
COMMENT LETTER I020 RECEIVED FROM JAMES H. CONLEY, ESQ., VICE PRESIDENT, NORTH SANTIAM WATERSHED COUNCIL, DATED FEBRUARY 25, 1998
RESPONSE TO COMMENT LETTER I020 ..... I020-2
COMMENT LETTER I021 RECEIVED FROM JAMES H. CONLEY, ESQ., VICE PRESIDENT, NORTH SANTIAM WATERSHED COUNCIL, DATED FEBRUARY 25, 1998
RESPONSE TO COMMENT LETTER I021 ..... I021-3
COMMENT LETTER I022 RECEIVED FROM STAN HAYE, CHAIR, SIERRA CLUB, CALIFORNIA/NEVADA RCC MINING COMMITTEE, DATED MARCH 8, 1998
RESPONSE TO COMMENT LETTER I022 ..... I022-2
COMMENT LETTER I023 RECEIVED FROM CAROLYN CHASE, CHAIR, EXECUTIVE COMMITTEE, SIERRA CLUB, SAN DIEGO CHAPTER, DATED MARCH 18, 1998
RESPONSE TO COMMENT LETTER I023 ..... I023-3
COMMENT LETTER I024 RECEIVED FROM DOUGLAS W. ALLEN, VICE PRESIDENT, THE DESERT PROTECTIVE COUNCIL, INC., DATED APRIL 5, 1998
RESPONSE TO COMMENT LETTER I024 ..... I024-5
COMMENT LETTER I025 RECEIVED FROM ELDON HUGHES, CALIFORNIA DESERT PROTECTION LEAGUE, DATED APRIL 7, 1998
RESPONSE TO COMMENT LETTER I025 ..... I025-6
COMMENT LETTER I026 RECEIVED FROM NORBERT RIEDY, DIRECTOR OF CONSERVATION PROGRAMS, THE WILDERNESS SOCIETY, DATED APRIL 10, 1998
RESPONSE TO COMMENT LETTER I026 ..... I026-4
COMMENT LETTER I027 RECEIVED FROM STAN HAYE, CHAIR, SIERRA CLUB, CALIFORNIA/NEVADA RCC MINING COMMITTEE, DATED APRIL 11, 1998
RESPONSE TO COMMENT LETTER I027 ..... I027-3
COMMENT LETTER I028 RECEIVED FROM JIM CONLEY, CO-CHAIR OF

THE CONSERVATION COMMITTEE, SALEM AUDUBON SOCIETY, DATED APRIL 11, 1998
RESPONSE TO COMMENT LETTER I028 ..... I028-3

PRIVATE CITIZENS

COMMENT LETTER J001 RECEIVED FROM LEE ANN RENFRO, NO DATE
RESPONSE TO COMMENT LETTER J001 ..... J001-4
COMMENT LETTER J002 RECEIVED FROM ROBERT T. FISHER, Ed.D, J.D., JANUARY 3, 1998
RESPONSE TO COMMENT LETTER J002 ..... J002-3
COMMENT LETTER J003 RECEIVED FROM EDWARD KIMURA, DATED JANUARY 27, 1998
RESPONSE TO COMMENT LETTER J003 ..... J003-6
COMMENT LETTER J004 RECEIVED FROM DOROTHY AND RONALD WILKE, DATED FEBRUARY 12, 1998
RESPONSE TO COMMENT LETTER J004 ..... J004-4
COMMENT LETTER J005 RECEIVED FROM RICHARD HANEY, DATED FEBRUARY 19, 1998
RESPONSE TO COMMENT LETTER J005 ..... J005-5
COMMENT LETTER J006 RECEIVED FROM ROYCE B. RIGGAN JR., AICP, DATED FEBRUARY 26, 1998
RESPONSE TO COMMENT LETTER J006 ..... J006-4
COMMENT LETTER J007 RECEIVED FROM ERIC SCHORI, NO DATE
RESPONSE TO COMMENT LETTER J007 ..... J007-15
COMMENT LETTER J008 RECEIVED FROM TIM HALDANE, DATED APRIL 3, 1998
RESPONSE TO COMMENT LETTER J008 ..... J008-6
COMMENT LETTER J009 RECEIVED FROM MELANIE SCHORI, DATED APRIL 12, 1998
RESPONSE TO COMMENT LETTER J009 ..... J009-6
COMMENT LETTER J010 RECEIVED FROM LINDA L. BROOKS, DATED APRIL 13, 1998
RESPONSE TO COMMENT LETTER J010 ..... J010-4
COMMENT LETTER J011 RECEIVED FROM CHUCK FISHER, NO DATE
RESPONSE TO COMMENT LETTER J011 ..... J011-3
COMMENT LETTER J012 RECEIVED FROM BILL EVANS, DATED FEBRUARY 1998
RESPONSE TO COMMENT LETTER J012 ..... J012-7

COMMENT LETTER J013 RECEIVED FROM SUSANNA DE FALLA, DATED DECEMBER 1, 1997
RESPONSE TO COMMENT LETTER J013 ..... J013-3
COMMENT LETTER J014 RECEIVED FROM KEVIN EMMERICH, DATED DECEMBER 3, 1997
RESPONSE TO COMMENT LETTER J014 ..... J014-3
COMMENT LETTER J015 RECEIVED FROM DON BAKER, DATED DECEMBER 22, 1997
RESPONSE TO COMMENT LETTER J015 ..... J015-4
COMMENT LETTER J016 RECEIVED FROM ALICE TSENG, DATED JANUARY 20, 1998
RESPONSE TO COMMENT LETTER J016 ..... J016-7
COMMENT LETTER J017 RECEIVED FROM BRYAN GORDON, DATED JANUARY 21, 1998
RESPONSE TO COMMENT LETTER J017 ..... J017-3
COMMENT LETTER J018 RECEIVED FROM PAUL SLAYTON, DATED FEBRUARY 8, 1998
RESPONSE TO COMMENT LETTER J018 ..... J018-5
COMMENT LETTER J019 RECEIVED FROM PAUL C. HARMON, DATED FEBRUARY 9, 1998
RESPONSE TO COMMENT LETTER J019 ..... J019-4
COMMENT LETTER J020 RECEIVED FROM PAUL C. HARMON, DATED FEBRUARY 9, 1998
RESPONSE TO COMMENT LETTER J020 ..... J020-4
COMMENT LETTER J021 RECEIVED FROM FRANCIS M. WHEAT, DATED FEBRUARY 10, 1998
RESPONSE TO COMMENT LETTER J021 ..... J021-10
COMMENT LETTER J022 RECEIVED FROM LISSA ADAMS, DATED FEBRUARY 20, 1998
RESPONSE TO COMMENT LETTER J022 ..... J022-5
COMMENT LETTER J023 RECEIVED FROM DAVE ENGLISH, DATED FEBRUARY 23, 1998
RESPONSE TO COMMENT LETTER J023 ..... J023-4
COMMENT LETTER J024 RECEIVED FROM ERNEST TRIGG, DATED FEBRUARY 24, 1998
RESPONSE TO COMMENT LETTER J024 ..... J024-3
COMMENT LETTER J025 RECEIVED FROM JOHN HILDEBRAND, DATED FEBRUARY 25, 1998
RESPONSE TO COMMENT LETTER J025 ..... J025-3

COMMENT LETTER J026 RECEIVED FROM CLAUDIA BURTON, DATED MARCH 8, 1998
RESPONSE TO COMMENT LETTER J026 ..... J026-2
COMMENT LETTER J027 RECEIVED FROM CLAUDIA BURTON, DATED MARCH 8, 1998
RESPONSE TO COMMENT LETTER J027 ..... J027-2
COMMENT LETTER J028 RECEIVED FROM JAY VON WERLHOF, DATED DECEMBER 11, 1997
RESPONSE TO COMMENT LETTER J028 ..... J028-5
COMMENT LETTER J029 RECEIVED FROM HARRIET ALLEN, DATED APRIL 12, 1998
RESPONSE TO COMMENT LETTER J029 ..... J029-3
COMMENT LETTER J355 RECEIVED FROM QUENTIN AND ELLEN BURKE, DATED APRIL 4, 1998
RESPONSE TO COMMENT LETTER J355 ..... J355-2

SPEAKERS AT 12/10/98 PUBLIC HEARING

TRANSCRIPT OF COMMENTS M001 MADE BY EDIE HARMON, AT THE PUBLIC MEETING ON THE DRAFT EIS/EIR, HELD IN LA MESA, CALIFORNIA, ON DECEMBER 10, 1997
RESPONSE TO THE TRANSCRIPT OF COMMENTS M001 ..... M001-7
TRANSCRIPT OF COMMENTS M004 MADE BY ERIC SCHORI, AT THE PUBLIC MEETING ON THE DRAFT EIS/EIR, HELD IN LA MESA, CALIFORNIA, ON DECEMBER 10, 1997
RESPONSE TO THE TRANSCRIPT OF COMMENTS M004 ..... M004-4
TRANSCRIPT OF COMMENTS M015 MADE BY REVEREND DEVORE SMITH, AT THE PUBLIC MEETING ON THE DRAFT EIS/EIR, HELD IN LA MESA, CALIFORNIA, ON DECEMBER 10, 1997
RESPONSE TO THE TRANSCRIPT OF COMMENTS M015 ..... M015-8
TRANSCRIPT OF COMMENTS M022 MADE BY FRANK WHEAT, AT THE PUBLIC MEETING ON THE DRAFT EIS/EIR, HELD IN LA MESA, CALIFORNIA, ON DECEMBER 10, 1997
RESPONSE TO THE TRANSCRIPT OF COMMENTS M022 ..... M022-5

SPEAKERS AT 12/11/98 PUBLIC HEARING

TRANSCRIPT OF COMMENTS N019 MADE BY EDIE HARMON, PUBLIC MEETING HELD ON DECEMBER 11, 1997

RESPONSE TO THE TRANSCRIPT OF COMMENTS N019 ..... N019-5

4 COMMENT LETTER NUMERICAL INDEX

5 COMMENT LETTER AUTHOR INDEX

6 COMMENT LETTER AGENCY AND ORGANIZATION INDEX

7 RESPONSE KEY WORD INDEX

1 INTRODUCTION

IMPERIAL PROJECT
FINAL ENVIRONMENTAL IMPACT STATEMENT/ ENVIRONMENTAL IMPACT REPORT

VOLUME III

COMMENTS AND RESPONSES TO COMMENTS

1 INTRODUCTION

This Volume III, *Comments and Responses to Comments*, of the Imperial Project Final Environmental Impact Statement (EIS)/Environmental Impact Report (EIR) has been jointly prepared by the U.S. Bureau of Land Management (BLM), which is the Lead Agency with respect to compliance with the National Environmental Policy Act (NEPA) and its implementing regulations, and Imperial County, through the Imperial County Planning/Building Department (ICPBD), which is the Lead Agency responsible for compliance with the California Environmental Quality Act (CEQA) and its applicable regulations, to analyze the environmental effects of the Proposed Action, the Imperial Project, and alternatives to the Proposed Action. The Final EIS/EIR for the Imperial Project consists of Volumes I and III, dated September 2000, and Volume II of the Draft EIS/EIR, *Appendices B-O*, dated November 1997, for the Imperial Project.

The responses to comments provided in this Volume III of the Final EIS/EIR also incorporate the findings of the Recirculated Supplement to Draft Environmental Impact Statement/Environmental Impact Report of March 1999 with respect to the "Revised Significance Determinations Under CEQA for Environmental Impacts on 'Endangered, Rare or Threatened' Biological Resources" (See discussion in Section 1.3 of Volume I of this Final EIS/EIR).

During the 135-day comment period for the November 1997 Draft EIS/EIR the BLM and the ICPBD received 541 "comment letters," including the comments provided by each individual which spoke during the two BLM public hearings. These comment letters have been organized by the type of entity submitting the comment letter (or by the type of comment letter provided, such as petitions or the comments provided in the public hearings), and each comment letter has been labeled with a unique comment letter designation consisting of the comment letter "type" (designated by "A," "B," etc.), followed immediately by a number, commencing with the number "001," for each "type" of letter (that is, A001, A002, . . . ; B001, B002, B003, . . . ; D001, etc.). Table 1 provides the list of these comment letter "type" designations and the count of the comment letters received in each of these "type" designations. Section 4 (Comment Letter Numerical Index) of this volume of the Final EIS/EIR provides a complete list of all comment letters received, sorted by comment letter number. Section 5 (Comment Letter Author Index) of this volume of the Final EIS/EIR provides a list of each of the comment letter authors sorted by comment author name, and Section 6 (Comment Letter

Agency and Organization Index) provides a list of comment letters received from agencies or organizations sorted by entity name.

Each comment letter received was then further classified into one of two groups, based on the content of the comment letter. Comment letters in which the author stated only an opinion regarding the approval or denial of the Imperial Project, or which consisted of some other single, non-substantive comment, were each treated as a single comment (that is, each of these comment letters contained only a single, non-substantive "comment"). All but 76 of the 535 comment letters received were determined to be in this group of single, "non-substantive" comments (see Section 2). Responses to these "non-substantive" comments have been prepared, and are contained in Section 2 (*Responses to General Comments in Support or Opposition to the Project and to General Comments on the Potential Effects of the Project on Specific Environmental Resources*) of this volume of the Final EIS/EIR. Copies of these "non-substantive" comments have not been reproduced in the Final EIS/EIR. However, a complete copy of all comments received on the November 1997 Draft EIS/EIR, and including all comments on the Recirculated Supplement to the Draft EIS/EIR and the public hearing transcripts, on file with the BLM and the ICPBD, and may be viewed during normal business hours at the locations listed below:

Bureau of Land Management	Imperial County
El Centro Field Office	Planning/Building Department
1661 South Fourth Street	939 Main Street
El Centro, California 92243	El Centro, California 92243
(760) 337-4400	(760) 482-4236
7:45 am to 4:30 pm	7:00 am to 12:00 noon - 1:00 pm to 5:00 pm

Any comment letter which contained at least one individual "comment" which either commented directly on the Draft EIS/EIR or otherwise expressly provided a specific comment on some aspect of the Imperial Project was deemed to be a "substantive" comment letter. Each of these "substantive" comment letters were then divided into one or more individual "comments" based on subject matter or content of the comments. Individual "comments" were then numbered in each of these "substantive" comment letters, starting with the number "001" and proceeding consecutively through to the last comment in each of these comment letters (see Section 3). Each comment is therefore uniquely numbered: first by the "comment letter number;" followed (if from a "substantive" comment letter) by a colon and an individual "comment number" (that is, A001:001, A001:002, A001:003 . . . ; B001:001 . . . ; etc.).

Photo-reproduced copies of each of the "substantive" comment letters, with the identified individual "substantive" comments marked, are provided in Section 3 of this Volume III of the Final EIS/EIR. Responses to each of these comments are also provided in Section 3 of this volume of the Final

EIS/EIR, printed with the responses following each of the respective comments. The comment letters and responses to comments are presented in alphanumerical order, and page numbering in Section 3 of this volume uses the alphanumerical comment letter of the respective comment letter followed by a hyphen and page number starting with page 1 for each comment letter and continuing in alphanumerical order through the last page of the response (e.g., A001-1, A001-2, A001-3, . . . ; A002-1, . . . ; N019-1). Copies of appendices, attachments, or exhibits either included with, or referenced by, any of the "substantive" comment letters are not reproduced in this Volume III of the Final EIS/EIR. However, a complete copy of all comments received on the November 1997 Draft EIS/EIR, and including all comments on the Recirculated Supplement to the Draft EIS/EIR and the public hearing transcripts, on file with the BLM and the ICPBD, and may be viewed during normal business hours at the following locations:

Bureau of Land Management El Centro Field Office 1661 South Fourth Street El Centro, California 92243 (760) 337-4400 7:45 am to 4:30 pm	Imperial County Planning/Building Department 939 Main Street , El Centro, California 92243 (760) 482-4236 7:00 am to 12:00 noon - 1:00 pm to 5:00 pm

The individual responses to comments on the Draft EIS/EIR provided in this volume of the Final EIS/EIR include internal references to other responses to similar or closely related comments and responses. Where the response to an individual comment resulted in revisions being made to the document for the Final EIS/EIR, these changes in the text of Volume I of the Final EIS/EIR are identified in this volume in a redline/strikeout format to clearly show the changes that were made to the text of Volume I in the Final EIS/EIR. "Redline" means new text added to the document and the text appears shaded as follows: this is an example of redline text; and "strikeout" means text that was deleted from the document and appears with a line through the deleted text as follows: ~~this is an example of strikeout text~~.

A Key Word Index is provided as Section 7 that lists key words and phrases of potential topical interest in the responses to comments, and the page numbers of this volume of the Final EIS/EIR where discussions incorporating these key words and phrases are located.

TABLE 1
ORGANIZATION AND COUNT OF COMMENT LETTERS

Type	Designation	Subdesignation	Number
A	Elected Officials	Federal	1
B	Elected Officials	State	3
C	Elected Officials	Local	0
D	Elected Tribal Officials/Representatives		3
E	Government Agencies	Federal	3
F	Government Agencies	State	2
G	Government Agencies	Local	5
H	Tribal Agencies		4
I	Organizations/Corporations		51
J	Private Citizens		353
K	Form Letters	[3 Types]	33
L	Petitions	[627 Total Signatures]	10
M	Speakers at 12/10/98 Public Hearing		43
N	Speakers at 12/11/98 Public Hearing		30
	Total Number of Comment Letters Received:		**541**

2 RESPONSES TO GENERAL COMMENTS IN SUPPORT OR OPPOSITION TO THE PROJECT AND TO GENERAL COMMENTS ON THE POTENTIAL EFFECTS OF THE PROJECT ON SPECIFIC ENVIRONMENTAL RESOURCES

2 RESPONSES TO GENERAL COMMENTS IN SUPPORT OR OPPOSITION TO THE PROJECT AND TO GENERAL COMMENTS ON THE POTENTIAL EFFECTS OF THE PROJECT ON SPECIFIC ENVIRONMENTAL RESOURCES

General Comment 001: The following comments either express general opposition to, or support for, the Project in the opinion of the respective authors, or express an opinion regarding whether the Project should be approved or denied, and contain no discussion of the adequacy of the Draft EIS/EIR. The comments in and of themselves do not provide reference to the technical basis or other rational for the belief or judgement expressed.

Comment(s) B001;001, B002;001, B003;001, D003;001, F002:016, G005;001, H001:004, H003;001, I006:001, I007:002, I010:008, I013:001, I013:002, I013:228, I013:457, I023:001, I023:002, I026:001, I026:004, I028:001, I038;001, I039;001, I040;001, I041;001, I042;001, I043;001, I044;001, I045;001, I046;001, I047;001, I048;001, I049;001, I050;001, I051;001, J001:006, J009:001, J010:001, J010:002, J010:012, J012:010, J012:011, J014:001, J014:010, J018:001, J022:003, J023:001, J023:005, J026:001, J026:003, J027:001, J027:003, J029:001, J140;001, J141;001, J142;001, J143;001, J144;001, J145;001, J146;001, J147;001, J148;001, J149;001, J150;001, J151;001, J152;001, J153;001, J154;001, J155;001, J156;001, J157;001, J158;001, J159;001, J160;001, J161;001, J162;001, J163;001, J164;001, J165;001, J166;001, J167;001, J168;001, J169;001, J170;001, J171;001, J172;001, J173;001, J174;001, J175;001, J176:001, J177:001, J178:001, J179;001, J180;001, J181;001, J182;001, J183;001, J184;001, J185;001, J186;001, J187;001, J188;001, J189;001, J190;001, J191;001, J192;001, J193;001, J194;001, J196;001, J197;001, J198;001, J199;001, J200;001, J201;001, J202;001, J203;001, J204;001, J205;001, J206;001, J207;001, J208;001, J209;001, J210;001, J211;001, J212;001, J213;001, J214;001, J215;001, J216;001, J217;001, J218;001, J219;001, J220;001, J221;001, J222;001, J223;001, J224;001, J225;001, J226;001, J227;001, J228;001, J229;001, J230;001, J231;001, J232;001, J233;001, J234;001, J235;001, J236;001, J237;001, J238;001, J239;001, J240;001, J241;001, J242;001, J243;001, J244;001, J245;001, J246;001, J247;001, J248;001, J249;001, J250;001, J251;001, J252;001, J253;001, J254;001, J255;001, J256;001, J257;001, J258;001, J259;001, J260;001, J261;001, J262;001, J263;001, J264;001, J265;001, J266;001, J267;001, J268;001, J269;001, J270;001, J271;001, J272;001, J273;001, J274;001, J275;001, J276;001, J277;001, J278;001, J279;001, J280;001, J281;001, J283;001, J284;001, J286;001, J287;001, J288;001, J289;001, J290;001, J291;001, J292;001, J293;001, J294;001, J295;001, J296;001, J297;001, J298;001, J299;001, J300;001, J301;001, J302;001, J303;001, J304;001, J305;001, J306;001, J307;001, J308;001, J309;001, J310;001, J311;001, J312;001, J313;001, J314;001, J315;001, J316;001, J317;001, J318;001, J319;001, J320;001, J321;001, J322;001, J323;001, J324;001, J325;001, J326;001, J327;001, J328;001, J329;001, J330;001, J331;001, J332;001, J333;001, J334;001, J335;001, J336;001, J337;001, J338;001, J339;001, J340;001, J341;001, J342;001, J343;001, J344;001, J345;001, J346;001, J347;001, J348;001, J349;001, J350;001, J351;001, J352;001, J353;001, J354;001, K001;001, K002;001, K003;001, K004;001, K005;001, K006;001, K007;001, K008;001, K009;001, K010;001, K011;001, K012;001, K013;001, K014;001, K015;001, K016;001, K017;001, K018;001, K019;001, K020;001,

2 RESPONSES TO GENERAL COMMENTS IN SUPPORT OR OPPOSITION TO THE PROJECT AND TO GENERAL COMMENTS ON THE POTENTIAL EFFECTS OF THE PROJECT ON SPECIFIC ENVIRONMENTAL RESOURCES

K021;001, K022;001, K023;001, K024;001, K025;001, K026;001, K027;001, K028;001, K029;001, K030;001, K031;001, L09;001, L010;001, M002;001, M005;001, M006;001, M007;001, M010;001, M011;001, M012;001, M013;001, M014;001, M016;001, M018;001, M019;001, M020;001, M024;001, M026;001, M027;001, M028;001, M029;001, M030;001, M031;001, M033;001, M034;001, M035;001, M036;001, M037;001, M038;001, M039;001, M040;001, M041;001, M042;001, M043;001, N001;001, N002;001, N003;001, N004;001, N005;001, N006;001, N007;001, N008;001, N009;001, N010;001, N011;001, N012;001, N013;001, N014;001, N015;001, N017;001, N019:007;001, N020;001, N021;001, N022;001, N023;001, N024;001, N025;001, N026;001, N027;001, N028;001, N029;001, N030;001

The comments are noted. The BLM and Imperial County will consider these statements of opposition or support during the decision-making process regarding the Plan of Operation and other submitted permit applications, and these statements will be appropriately addressed in the applicable decision documents. The comment analysis process deals with identification and analysis of issues raised. Each and every letter is looked at to identify all comments made. The comments are then grouped by category, as described in Section 1. This methodology is used to highlight concerns and questions for interdisciplinary team analysis and the deciding officials and it is not intended as a vote counting process. The ultimate goal of seeking and analyzing public comments is to make a better-informed decision.

Revisions to the Final EIS/EIR: None.

General Comment 002: The following comments express a concern about some aspect of the Project or express a general concern about the effects of the Project on one or more environmental resources, but the comment(s) contain no discussion of the adequacy of the Draft EIS/EIR and do not provide reference to the technical basis or other verifiable documentation to support the belief or judgement expressed.

Comment(s) A001:002, A001:003, A001:005, A001:008, A001:010, H002;001, H004;001, I005:001, I007:002, I010:008, I011:001, I021:003, I023:001, I023:002, I024:001, I024:022, I026:001, I026:004, I027:001, I028:001, I029;001, I030;001, I031;001, I032;001, I033;001, I034;001, I035;001, I036;001, I037;001, J002:002, J002:003, J002:004, J02:005, J003:001, J003:002, J005:001, J005:002, J005:006, J007:012, J009:001, J009:002, J009:005, J010:010, J011:001, J011:003, J011:004, J011:005, J011:006, J011:009, J012:001, J012:008, J012:012, J013:001, J013:004, J013:006, J014:007, J016:001, J021:006, J022:010, J022:013, J028:001, J029:006, J030;001, J031;001, J032;001, J033;001, J034;001, J035;001, J036;001, J037;001,

2 RESPONSES TO GENERAL COMMENTS IN SUPPORT OR OPPOSITION TO THE PROJECT AND TO GENERAL COMMENTS ON THE POTENTIAL EFFECTS OF THE PROJECT ON SPECIFIC ENVIRONMENTAL RESOURCES

J038;001, J039;001, J040;001, J041;001, J042;001, J043;001, J044;001, J045;001, J046;001, J047;001, J048;001, J049;001, J050;001, J051;001, J052;001, J053;001, J054;001, J055;001, J056;001, J057;001, J058;001, J059;001, J060;001, J061;001, J062;001, J063;001, J064;001, J065;001, J066;001, J067;001, J068;001, J069;001, J070;001, J071;001, J072;001, J073;001, J074;001, J075;001, J076;001, J077;001, J078;001, J079;001, J080;001, J081;001, J082;001, J083;001, J084;001, J085;001, J086;001, J087;001, J088;001, J089;001, J090;001, J091;001, J092;001, J093;001, J094;001, J095;001, J096;001, J097;001, J098;001, J099;001, J100;001, J101;001, J102;001, J103;001, J104;001, J105;001, J106;001, J107;001, J108;001, J109;001, J110;001, J111;001, J112;001, J113;001, J114;001, J115;001, J116;001, J117;001, J118;001, J119;001, J120;001, J121;001, J122;001, J123;001, J124;001, J125;001, J126;001, J127;001, J128;001, J129;001, J130;001, J131;001, J132;001, J133;001, J134;001, J135;001, J136;001, J137;001, J138;001, J139;001, L001;001, L002;001, L003;001, L004;001, L005;001, L006;001, L007;001, L008;001, M001:001;001, M003;001, M004:001;001, M008;001, M009;001, M017;001, M021;001, M023;001, M025;001, M032;001, N016;001, N018;001

Response to General Comment 002: The responses provided below are grouped by environmental resource discipline or issue under the same categories and in the same order as they are presented in the Draft EIS/EIR. These responses direct comment authors to appropriate locations in the Draft EIS/EIR where information regarding their general comment(s) may be found.

Geology and Mineral Resources: The Draft EIS/EIR discusses geological hazards and mineral potential on pages S-18 through S-21; pages 3-1 through 3-6; pages 4-1 through 4-5; pages 4-127 and 4-128; page 4-137; pages 4-146 and 4-147; and page 4-155. The assessment guidelines, which identify when the Proposed Action would normally have a significant effect on the environment, are provided on page 4-1. On pages 4-4 through 4-5, the Draft EIS/EIR recommends measures to avoid or reduce potentially significant impacts. Since all potentially significant impacts on geology and mineral resources would be avoided or reduced to less than significant levels by the mitigation measures, the Draft EIS/EIR found on page 4-5 that the Project would not cause unavoidable adverse impacts to geology and mineral resources.

Soil Resources: The Draft EIS/EIR discusses soil disturbances such as erosion on pages S-20 and S21; pages 3-9 and 3-10; pages 4-5 through 4-8; page 4-128; pages 4-137 and 4-138; page 4-147; and page 4-155. A site-specific soils survey was prepared for the Project, summarized in these sections of the Draft EIS/EIR, and attached as Attachment E to Appendix A of the Draft EIS/EIR. The assessment guidelines, which identify when the Proposed Action would normally have a significant effect on the environment, are provided on page 4-5. On

pages 4-7 and 4-8, the Draft EIS/EIR recommends measures to avoid or reduce potentially significant impacts. Since all potentially significant impacts on soil resources would be avoided or reduced to less than significant levels by the mitigation measures, the Draft EIS/EIR found on page 4-8 that the Project would not cause unavoidable adverse impacts to soil resources.

Hydrologic Resources: The Draft EIS/EIR discusses hydrologic issues concerning both surface water and ground water on pages S-20 through S-27; pages 3-10 through 3-32; pages 4-8 through 4-26; pages 4-129 and 4-130; pages 4-138 and 4-139; page 4-147; and page 4-155. Several technical reports were prepared for the Project, summarized in these sections of the Draft EIS/EIR, and attached as appendices to the Draft EIS/EIR. Appendix C-1 and Appendix C-2 analyze the potential for chemicals to be extracted by rain and ground water from the rocks mined by the Project which could then pollute the surface water and ground water. Appendix D was a regulatory delineation of the "waters of the United States." Aquifer baseline conditions and impacts were analyzed for the Project in Appendix E-1 and updated in Appendix E-2. The assessment guidelines, which identify when the Proposed Action would normally have a significant effect on the environment, are provided on page 4-8 for surface waters and on page 4-18 for ground waters. On pages 4-16 and 4-17, the Draft EIS/EIR recommends measures to avoid or reduce potentially significant impacts to surface waters; and on pages 4-25 and 4-26, the Draft EIS/EIR recommends measures to avoid or reduce potentially significant impacts to ground waters. Since all potentially significant impacts on hydrologic resources would be avoided or reduced to less than significant levels by mitigation measures, the Draft EIS/EIR found on pages 4-17 and 4-26 that the Project would not cause unavoidable adverse impacts to surface waters and ground waters, respectively.

Air Resources: The Draft EIS/EIR discusses air quality issues such as emissions from mining operations, exposure to sensitive populations and other air quality health concerns on pages S-26 through S-29; pages 3-33 through 3-38; pages 4-26 through 4-45; page 4-130; page 4-139; page 4-148; and page 4-155. An assessment of the air quality impact of the Project was prepared, summarized in these sections of the Draft EIS/EIR, and attached as Appendix O of the Draft EIS/EIR. The assessment guidelines, which identify when the Proposed Action would normally have a significant effect on the environment, are provided on page 4-27. On pages 4-44 and 4-45, the Draft EIS/EIR recommends measures to avoid or reduce potentially significant impacts to air resources. Since all potentially significant impacts on air resources would be avoided or reduced to less than significant levels by mitigation measures, the Draft EIS/EIR found on page 4-45 that the Project would not cause unavoidable adverse impacts to air resources.

2 RESPONSES TO GENERAL COMMENTS IN SUPPORT OR OPPOSITION TO THE PROJECT AND TO GENERAL COMMENTS ON THE POTENTIAL EFFECTS OF THE PROJECT ON SPECIFIC ENVIRONMENTAL RESOURCES

Biological Resources: The Draft EIS/EIR discusses biological issues as impacts to threatened or endangered wildlife and plant species, habitat, and wildlife movement on pages S-30 through S-43; pages 3-38 through 3-81; pages 4-45 through 4-78; pages 4-130 though 4-132; pages 4-140 and 4-141; pages 4-148 and 4-149; and page 4-155. Several technical reports were prepared for the Project, summarized in these sections of the Draft EIS/EIR, and attached as appendices to the Draft EIS/EIR. Appendix F is a vegetation baseline survey conducted on a total area of approximately 1,700 acres covered by the Project. Appendix G is a wash vegetation and habitat survey conducted on the wash systems within the Project mine and process area. Appendix H is the report of a biological survey conducted on the entire area of the Proposed Action. Appendix I is a letter report on investigations for desert deer on the Project mine and process area. Appendix J is a letter report on investigations conducted on the Project mine and process area on bats. Appendix K is the report of field survey of the transmission line for flat-tailed horned lizards. The assessment guidelines, which identify when the Proposed Action would normally have a significant effect on the environment, are provided on page 4-46. On pages 4-64 through 4-78, the Draft EIS/EIR recommends measures to avoid or reduce potentially significant impacts to biological resources. The Draft EIS/EIR found on page 4-78 that the Project would not cause unavoidable adverse impacts to biological resources. However, this determination was amended by the Recirculated Supplement to the Draft EIS/EIR (See Section 1, above), and the Final EIS/EIR states:

> "For general wildlife species these impacts are below the level of significance after the implementation of the proposed design measures and recommended mitigation measures. However, because of the mandatory findings of significance prescribed by CEQA guidelines, the impact of the loss of this habitat on desert tortoise, Gila woodpecker, and peregrine falcon is considered significant under CEQA."

Cultural and Paleontological Resources: The Draft EIS/EIR discusses cultural and paleontological issues, including impacts to properties or resources included on, or eligible for, the National Register of Historic Places (NRHP), on pages S-44 through S-53; pages 3-81 through 3-94; pages 4-78 through 4-87; pages 4-132 and 4-133; pages 4-141 and 4-142; pages 4-149 and 4-150; and page 4-155. An extensive survey of, and assessment of the impacts of the Project to, the cultural resources and Native American values within the area of the Proposed Action, including a report on the Native American consultation for the Project, was prepared. The non-confidential portions of these reports were summarized in these sections of the Draft EIS/EIR and attached as Appendix L (and Appendix C to Appendix L) of the Draft EIS/EIR. The assessment guidelines, which identify when the Proposed Action would normally

2 RESPONSES TO GENERAL COMMENTS IN SUPPORT OR OPPOSITION TO THE PROJECT AND TO GENERAL COMMENTS ON THE POTENTIAL EFFECTS OF THE PROJECT ON SPECIFIC ENVIRONMENTAL RESOURCES

have a significant effect on the environment, are provided on pages 4-78 and 4-79. On pages 4-83 through 4-87, the Draft EIS/EIR recommends measures to avoid or reduce potentially significant impacts to cultural and paleontological resources. On page 4-87, the Draft EIS/EIR found that the Indian Pass-Running Man area of traditional cultural concern (ATCC), including the Trail of Dreams; seven multi-component archaeological sites; and twelve prehistoric trail sites in the Project mine and process area, each of which were evaluated as eligible for the NRHP under Criteria "A", "C" and "D", would not be avoided under the Proposed Action, and the impact of the Proposed Action would be considered significant and adverse, even after implementation of the mitigation measures specified in the Draft EIS/EIR.

Visual Resources: The Draft EIS/EIR discusses potential impacts from lighting, visual reduction, and visual contrast as seen from key observation points (KOPs) on pages S-54 and S-55; pages 3-94 through 3-98; pages 4-87 through 4-100; pages 4-133 and 4-134; pages 4-142 and 4-143; pages 4-150 and 4-151; and page 4-156. An assessment of the visual setting of the Project area and the potential impact of the Project was prepared, summarized in these sections of the Draft EIS/EIR, and attached as Appendix M of the Draft EIS/EIR. The assessment guidelines, which identify when the Proposed Action would normally have a significant effect on the environment, are provided on pages 4-87 and 4-88. On pages 4-99 and 4-100, the Draft EIS/EIR recommends measures to avoid or reduce potentially significant impacts to visual resources. However, even after implementation of mitigation measures, the Project would result in unavoidable physical changes in the existing contour and character of the Project area. These changes would be visibly most apparent over the active life of the Project, but would diminish through the completion of reclamation and revegetation activities contained as part of the Project. These physical changes to the area would be permanent, but would continue to lessen following the completion of final reclamation as natural processes continued to soften the line and form to and match the surrounding landscape. These residual impacts to the visual character of the Project area are judged to be significant and unmitigatable. Even after implementation of mitigation measures, the Project would also result in a visual contrast with the surrounding area and would change the existing character of the landscape to a degree which would not conform with the BLM Class II visual objectives which have been applied to this Class L-designated area. This lack of conformance is a significant, unmitigatable impact.

Noise: The Draft EIS/EIR discusses impacts to noise-sensitive receptors on pages S-56 and S-57; pages 3-99 and 3-100; pages 4-100 through 4-103; page 4-134; page 4-143; page 4-151; and page 4-156. The assessment guidelines, which identify when the Proposed Action would normally have a significant effect on the environment, are provided on page 4-100. On

2 RESPONSES TO GENERAL COMMENTS IN SUPPORT OR OPPOSITION TO THE PROJECT AND TO GENERAL COMMENTS ON THE POTENTIAL EFFECTS OF THE PROJECT ON SPECIFIC ENVIRONMENTAL RESOURCES

pages 4-102 and 4-103, the Draft EIS/EIR recommends measures to avoid or reduce potentially significant impacts. Since all potentially significant impacts from noise would be avoided or reduced to less than significant levels by the mitigation measures, the Draft EIS/EIR found on page 4-103 that the Project would not cause unavoidable adverse impact from noise.

Land Use: The Draft EIS/EIR discusses compatibility with existing land uses, adopted land use plans and policies, wilderness areas and recreational resources on pages S-56 and S-57; pages 3-100 through 3-106; pages 4-103 through 4-109; pages 4-134 and 4-135; pages 4-143 and 4-144; page 4-151; page 4-153; and page 4-156. The assessment guidelines, which identify when the Proposed Action would normally have a significant effect on the environment, are provided on page 4-103. On pages 4-108 and 4-109, the Draft EIS/EIR recommends measures to avoid or reduce potentially significant impacts. Since all potentially significant impact on land use would be avoided or reduced to less than significant levels by the mitigation measures, the Draft EIS/EIR found on page 4-109 that the Project would not cause unavoidable adverse impacts to land use.

Socioeconomics: The Draft EIS/EIR discusses employment opportunities, capital expenditures and municipal revenues due to the implementation of the Project on pages S-56 and S-57; pages 3-107 and 3-108; pages 4-109 through 4-111; page 4-135; page 4-144; page 4-153; and page 4-156. The assessment guidelines, which identify when the Proposed Action would normally have a significant effect on the environment, are provided on pages 4-109 and 4-110. No mitigation measures were recommended as all adverse socioeconomic effects of the Project would be below the level of significance. There would be no unavoidable adverse socioeconomic effects from the Proposed Action; rather, it is expected that socioeconomic effects from the Project would be beneficial in the form of employment opportunities, tax revenues, and increased spending in the local region for goods and services by both Project employees and contractors.

Roads and Public Services: The Draft EIS/EIR discusses potential impacts to infrastructure and public services, particularly roads; electrical and telephone services; water supply; sanitary and solid waste disposal; and law enforcement, medical and education facilities on pages S-56 through S-61; pages 3-109 through 3-112; pages 4-112 through 4-120; pages 4-135 and 4-136; pages 4-144 and 4-145; pages 4-153 and 4-154; and page 4-156. The assessment guidelines, which identify when the Proposed Action would normally have a significant effect on the environment, are provided for roads and transportation systems on page 4-112; for utilities on page 4-116; and for public services on page 4-119. The Draft EIS/EIR recommends measures to avoid or reduce potentially significant impacts to roads and transportation systems on

pages 4-114 through 4-116; to utilities, on pages 4-118 and 4-119; and public services, on page 4-120. Since all potentially significant impacts to roads and transportation systems, utilities and public services would be avoided or reduced to less than significant levels by the mitigation measures, the Draft EIS/EIR found on page 4-116 and pages 4-119 and 4-120 that the Project would not cause unavoidable adverse impacts to roads and transportation systems, utilities, and public services, respectively.

Emergency Services and Public Safety: The Draft EIS/EIR discusses emergency response issues such as potential fires, explosions, and chemical spills on pages S-62 and S-63; page 3-112; pages 4-121 through 4-125; page 4-136; page 4-145; page 4-154; and page 4-156. The assessment guidelines, which identify when the Proposed Action would normally have a significant effect on the environment, are provided on page 4-121. On pages 4-123 though 4-125, the Draft EIS/EIR recommends measures to avoid or reduce potentially significant impacts to emergency services and public safety. Since all potentially significant impacts to emergency services and public safety would be avoided or reduced to less than significant levels by mitigation measures, the Draft EIS/EIR found on page 4-125 that the Project would not cause unavoidable adverse impacts to emergency services and public safety.

Other Resources: The Draft EIS/EIR discusses other resource issues such as conversion of prime agricultural lands, Environmental Justice and compliance with Executive Order 12898 (Sacred Sites), on pages S-64 and S-65; page 3-112; pages 4-125 through 4-127; page 4-136; pages 4-145 and 4-146; and page 4-154. The assessment guidelines, which identify when the Proposed Action would normally have a significant effect on the environment, are provided on page 4-125. No potentially significant effects were identified, mitigation measures were required, and the Project would have no unavoidable adverse effects on other resources.

Cumulative Effects: The Draft EIS/EIR discusses cumulative effects in Chapter 5. The past, present and reasonably foreseeable future projects analyzed were identified by Imperial County and the BLM following consultation with other agencies and interested parties. The reasonably foreseeable future analysis for the Draft EIS/EIR was for a 20-year time frame, based on the estimated potential future life of the Proposed Action. Based on the analysis of each of the environmental resources and the cumulative projects considered, the following elements of the human environment could be potentially subject to cumulatively significant effects (project-specific impacts may occur to other environmental resources, but these would not be cumulatively significant):

2 RESPONSES TO GENERAL COMMENTS IN SUPPORT OR OPPOSITION TO THE PROJECT AND TO GENERAL COMMENTS ON THE POTENTIAL EFFECTS OF THE PROJECT ON SPECIFIC ENVIRONMENTAL RESOURCES

- Cumulative Effects on Hydrological Resources - pages 5-9 through 5-11; as the cumulative projects were widely scattered and the ground water consumption distributed, no significant impact would occur, and no mitigation measures are recommended.

- Cumulative Effects on Air Resources - pages 5-11 and 5-12; a cumulatively significant effect would occur for PM_{10} since the Project would contribute to PM_{10} concentrations in the Project area which already exceed the California ambient air quality standards for PM_{10} during periods of high wind. Mitigation measures designed to eventually reduce the ambient levels of PM_{10} below California ambient air quality standards are already required by the Imperial County Air Pollution Control District.

- Cumulative Effects on Biological Resources - pages 5-12 through 5-15; the cumulative effect to microphyll woodland habitat and sensitive plant and animal species was found to be below the level of significance. However, the "Imperial Project Revised Significance Determinations Under CEQA For Environmental Impacts on 'Endangered, Rare or Threatened' Biological Resources Recirculated Supplement to the Draft EIS/EIR" (BLM and ICPBD, 1999) adds a new threshold of significance to assess the significance of Project-related impacts on certain biological resources for Imperial County's review of the Project under CEQA. In general, the new significance thresholds establishes a much lower threshold of significance for impacts on "endangered, rare or threatened species" listed under the state and federal Endangered Species Acts. Individual, project-specific effects of the identified projects within the cumulative study area associated with the short-term loss of on-site habitat for "endangered, rare and threatened"plant and animal species would be individually considered significant and unavoidable under CEQA. Despite the implementation of mitigation measures to reduce project-specific impacts within the cumulative study area, the cumulative effects of the identified cumulative projects on "endangered, rare and threatened" plant and animal species would also be considered significant and unavoidable.

- Cumulative Effects on Cultural Resources - pages 5-15 through 5-19; implementation of the Project, taken together with past, present, and reasonably foreseeable projects would contribute to the already significant cumulative effects to cultural resources.

- Cumulative Effects on Visual Resources - on page 5-20; as no more than one of the cumulative assessment projects is visible from any important viewing location at any one time, the cumulative effect was found to be below the level of significance.

- Cumulative Effects on Noise - page 5-20; the identified cumulative projects may be audible between those cumulative project areas located closest to each other, but with the implementation of typical project-specific mitigation measures, would not result in a significant cumulative noise impact.

- Cumulative Effects on Recreation - page 5-20; given the large areas with similar, if not identical, opportunities for dispersed recreation, the cumulative effect was found to be below the level of significance.

Other Required Considerations: The Draft EIS/EIR discusses Other Required Considerations in Chapter 6. These are subjects that are required by NEPA and CEQA to be addressed in the EIS/EIR.

- Relationship Between Local Short-Term Use of the Environment and the Maintenance and Enhancement of Long Term Productivity - page 6-1; short-term use would develop mineral resources; the development of the Proposed Action over the long-term would not preclude the re-establishment of the majority of the identified existing land uses in the Project area, although Native American religious and educational uses would be eliminated and the 198-acre East Pit would not be re-established for wildlife habitat or past recreational land uses.

- Significant Irreversible and Irretrievable Resource Commitments - pages 6-1 and 6-2; the topography and visual character of the Project mine and process area would be permanently altered by the Proposed Action, as would the use for Native American religious and educational practices. Extracted ground water and mineral resources represent irretrievable commitments, and all the energy, fuel and other materials used for mining would represent irreversible and irretrievable resources.

- Growth-Inducing Effects - page 6-2; the Project would produce few, if any, growth-inducing effects. The transmission line into the Project mine area would be removed following completion of the Project, and the Project would not require the extension or expansion of any utilities or public services which would attract or stimulate development.

Revisions to the Final EIS/EIR: None.

3 COMMENTS LETTERS CONTAINING SUBSTANTIVE COMMENTS AND RESPONSES TO THESE COMMENTS ON THE DRAFT EIS/EIR

3 COMMENTS LETTERS CONTAINING SUBSTANTIVE COMMENTS AND RESPONSES TO THESE COMMENTS ON THE DRAFT EIS/EIR

ELECTED OFFICIALS — FEDERAL

JAN 27 '98 01:38PM SENATOR BOXER SAN DIEGO P.2

BARBARA BOXER
California

COMMITTEES:
APPROPRIATIONS
BANKING, HOUSING, AND URBAN AFFAIRS
BUDGET
ENVIRONMENT AND PUBLIC WORKS

United States Senate
HART SENATE OFFICE BUILDING
SUITE 112
WASHINGTON, DC 20510-0505
(202) 224-3553
senator@boxer.senate.gov
http://www.senate.gov/~boxer

January 27, 1998

Pat Shea, Director
Bureau of Land Management
Department of the Interior
1849 C Street, Room 5660
Washington, DC 20240

Dear Mr. Director:

001 I am writing to express my strong opposition to the Glamis Imperial Corporation's Imperial Project, a proposed gold mine in eastern Imperial County. The project is situated on some 1,625 acres of unpatented mining claims on public lands administered by the Bureau of Land Management (BLM).

002 If the mine is excavated, important Indian religious sites will be lost and also lost will be archaeological resources and critical desert habitat.

003 BLM's El Centro Resource Area has issued a revised EIS/EIR for the project, which is currently undergoing public review and comment. I understand that hundreds of technical objections to this document and its predecessor have been expressed in writing and at public hearings by the Quechan Indian tribe, wildlife organizations and agencies, and other concerned citizens.

004 The Federal Land Policy and Management Act (Section 1732(b)) states that the Secretary of Interior shall "by regulation or otherwise, take any action necessary to prevent unnecessary or undue degradation of the lands." Given the nonstrategic nature of the mineral sought here, along with the devastating impacts of the cyanide heap leach mining process on the landscape and on other public uses of this land, I believe the project would indeed cause unnecessary and undue degradation as defined by FLPMA. Moreover, Section 1781 of FLPMA calls on the Secretary to take special care to protect sensitive lands in the California Desert Conservation Area.

005 My concerns go to the heart of the project itself. My opposition is based upon the documentary evidence, meetings with the Quechan Indians Cultural Committee and others, and consultation with my community representative for Imperial County, who has visited the site several times and met with many interested parties including BLM staff as well as project proponents and opponents.

:: 1700 MONTGOMERY STREET, SUITE 240, SAN FRANCISCO, CA 94111, (415) 403-0100
:: 2280 EAST IMPERIAL HIGHWAY, SUITE 240, EL SEGUNDO, CA 90245, (310) 914-7300
:: 880 CAPITOL MALL, SUITE 4540, SACRAMENTO, CA 95814, (916) 448-2787
:: 3500 TULARE STREET, SUITE 130, FRESNO, CA 93721, (209) 487-5190
:: 525 B STREET, SUITE 980, SAN DIEGO, CA 92101, (619) 239-3884
:: 310 NORTH D STREET, SUITE 318, SAN BERNARDINO, CA 92401, (909) 889-3525

PRINTED ON RECYCLED PAPER

I believe that the project represents a grave threat to the religion and culture of the Quechan Indians -- one of seven Yuman
006 tribes tracing their origin to Spirit Mountain, near Laughlin. A sacred trail links the Quechan's original home to their current home near Yuma, one branch of which runs through the gold mine site.

The American Indian Religious Freedom Act, which was signed into law by President Carter in 1978, states in clear language that laws passed for other purposes were not meant to restrict
007 the rights of Native Americans. The Act makes it a policy for the federal government to protect and preserve for Native Americans their inherent right to believe, express, and exercise their religion.

The project would also have severe adverse environmental impacts on a pristine corner of the California desert. As the Imperial County Fish & Game Commission and others have noted,
008 this area is prime habitat for the California desert tortoise and other important desert species. Indian Pass Road, which bisects the project site, has long provided recreational access to two nearby wilderness areas and to the Colorado River; BLM has designated it a "National Scenic Byway."

In its California Desert Plan, BLM designated this area "Class L" ("limited use"); the Desert Plan defines this as
009 "oriented toward giving priority to the protection of sensitive natural, scenic, ecological and cultural values while placing limitations on other uses which may conflict with these values." The proposed gold mine clearly conflicts with the other values enumerated above.

Mr. Director, I believe that this project threatens to do
010 great harm to the land and people of the United States while offering little if any benefit to the people of California. I respectfully ask you to do everything within your power to halt this project.

Thank you for your consideration of this matter. I look forward to discussing it with you at your earliest convenience. Should you have any questions, please call me or have your staff call Dan Hammer in my San Diego field office.

Sincerely,

Barbara Boxer

Barbara Boxer
United States Senator

PRINTED ON RECYCLED PAPER

RESPONSE TO COMMENT LETTER A001 RECEIVED FROM UNITED STATES SENATOR BARBARA BOXER, DATED JANUARY 27, 1998

Response to Comment A001:001: The Senator's opposition to the project is acknowledged. Statement of opposition to the project is being considered in the decision making process.

Response to Comment A001:002: The environmental analysis identifies the significant effects to archeological and cultural resources.

Response to Comment A001:003: Public comments on the analysis of environmental effects of the proposed project are included in this Volume of the Final EIS/EIR. Responses to the comments are given at a level of detail appropriate to the comment. Revisions to the Final EIS/EIR are also listed.

Response to Comment A001:004: Determination of any extent of unnecessary or undue degradation will be discussed in the decision document for the proposed Imperial Project. The location of the proposal in the California Desert Conservation Area will be an important factor when evaluating the significant effects of the project versus preservation of archeological and cultural resources. Also refer to the response to Comment I010:002.

Response to Comment A001:005: (The Following Response is Also Applicable to Comments D001:001, D002:001, H001:001, H001:002, H001:003, H001:005, H001:006, H01:010, H01:011, I012:025, I012:031, I012:043, I013:338, I013:339, I013:340, I013:341, I013:348, I013:349, I013:350, I013:351, I013:352, I013:353, I013:356, I013:366, I013:449, I013:450, J013:002, J016:001, J021:006, J022:009, N019:005.) (See Also Response to General Comment 002.) The information concerning cultural resources and Native American values contained in this comment is consistent with the discussions of cultural resources and Native American values contained in the Draft EIS/EIR. Section 3.6.2. (pages 3-81 through 3-93) and Appendix L of the Draft EIS/EIR discuss the cultural resources and Native American values of the Project area and beyond in great detail. Sections 4.1.6.2. and 4.1.6.3.(pages 4-81 through 4-87) and Appendix L of the Draft EIS/EIR conclude that cultural resources located within the area of potential effect, including those evaluated as significant and eligible for listing on the National Register, and Native American values would both be adversely impacted by the Project, and Section 4.1.6.3. (page 4-87) clearly states that these impacts to cultural resources and Native American values would remain significant after mitigation.

The strong opposition by the Quechan and other non-Quechan individuals and organizations to the Project is acknowledged. Discussion of how the BLM considers these impacts in light of its statutory and regulatory mandates is more appropriately part of the BLM's decision-making process regarding the Plan of Operation, rather than as part of the environmental assessment required under NEPA.

RESPONSE TO COMMENT LETTER A001 RECEIVED FROM UNITED STATES SENATOR BARBARA BOXER, DATED JANUARY 27, 1998

Revisions to the Final EIS/EIR: None.

Response to Comment A001:006: See Response to Comment I012:023.

Response to Comment A001:007: See Response to Comment E001:013.

Response to Comment A001:008: See Responses to Comments I010:008 and I015:014.

Response to Comment A001:009: See Response to Comment I010:002.

Response to Comment A001:010: See Response to General Comment 002.

3 COMMENTS LETTERS CONTAINING SUBSTANTIVE COMMENTS AND RESPONSES TO THESE COMMENTS ON THE DRAFT EIS/EIR

ELECTED TRIBAL OFFICIALS/REPRESENTATIVES

QUECHAN INDIAN TRIBE
Fort Yuma Indian Reservation

P.O. Box 1899
YUMA, ARIZONA 85366-1899
Phone (619) 572-0213
FAX (619) 572-2102

D001

December 9, 1997

Douglas Romoli
Bureau of Land Management
1661 S. 4th Street
El Centro, California 92243

Dear Mr. Romoli:

Subject: Draft Environmental Impact Statement (EIS)/Environmental Impact Report (EIR)

001

We appreciated the opportunity to review the EIS/EIR that was prepared for the Imperial Project proposal to be developed by Glamis Imperial Corporation for an open-pit operation. **We again underscore our position of adamantly opposing any development within the boundaries of the tribal lands that contain the location of sacred religious areas that is elemental to the continued ancient practices of the Quechan Tribe.**

By disturbing the land and permitting any type of mitigating measures as reclamation measures to attempt reclaiming the land will severely affect our identity as a people. Would an open-pit operation be allowed in Jerusalem, where shrines and sacred grounds of Islamic, Judaic and Christian religions are located? Why should Native Americans face an institutional razing of their scared grounds? The Native Americans have lived with broken promises for years. We need our Tribal Cultural Properties (TCP) protected. You cannot fix anything once it's destroyed for that reason we have not changed our position of not supporting any development within the project area under consideration!

Our review also noted that alternative land uses should explore developing a desert preserve that will protect scared religious areas of the Tribe. This preserve will also maintain an area important for the cultural identity of the Quechan Tribe. In addition, the history of the Quechan and other Colorado River Tribes will be better understood and preserved by maintaining the subject study area in its natural state. In addition, other portions of this area could provide the maintenance of desert vegetation and open space for the general public, particularly in a region that has over 20 million people within a four-hour drive.

002

If development is approved over our strong objections, the Tribe requests that representatives designated by them sit on the Mitigation Review Committee. We expect that this committee will monitor any mitigation measures that will be approved in the Final EIS/EIR.

We request that we be informed of any public meeting/hearing and that we receive any reports pertaining to this project in question.

Sincerely,

Pauline Owl

Pauline Owl, Tribal Cultural Committee Chairperson

Mike Jackson, Sr., Tribal President

CC: Jurg Heuberger, AICP, Imperial County Planning Director
Sierra Club
Quechan Tribal Council
Quechan Cultural Committee

MJ/gm

RESPONSE TO COMMENT LETTER D001 RECEIVED FROM PAULINE OWL, TRIBAL CULTURAL COMMITTEE CHAIRPERSON, AND MICK JACKSON, SR., TRIBAL PRESIDENT, QUECHAN INDIAN TRIBE, DATED DECEMBER 9, 1997

Response to Comment D001:001: See Response to Comment A001:005.

Response to Comment D001:002: Comment noted. The Final EIS/EIR does not propose such a committee.

Revisions to the Final EIS/EIR: None.

QUECHAN INDIAN TRIBE **D002**
Fort Yuma Indian Reservation
P.O. Box 1899
YUMA, ARIZONA 85366-1899
Phone (619) 572-0213
FAX (619) 572-2102

April 13, 1998

Bureau of Land Management
1661 South 4th Street
El Centro, California 92243

Attention: Douglas Romoli

001 The Quechan Tribal Cultural Committee appointed by the Quechan Tribal Council hereby declares the opposition of the proposed Imperial Glamis Chemgold Mining Project.

The Fort Yuma Indian Reservation is located in the confluence of the Gila and Colorado Rivers and covers 68 square miles. 63 square miles are located in eastern Imperial County, California and 5 square miles in the western border of Yuma County, Arizona. The Quechan Indian Tribe consists of 2588 tribal members of which 1403 reside on the Reservation. In addition, the Tribal Enrollment Office estimates 400 Native American other than Quechans, total 1803. The Tribe estimates another 1000 persons classified as non Native Americans reside on the Reservation bringing the total population to estimated 2803.

The Quechan Cultural Committee and several tribal members recognized that the Imperial Glamis Chemgold Mining proposed project was a destructive problem that the Bureau of Land Management needed more than just a few months to solve. This was not the first project of its kind that we have taken an oppositional stand to. The "Ward Valley" land transfer proposal is another serious destructive project that was impinging on an otherwise quiet Quechan home front.

As the project carried on with its proposal the build up of Quechan opposition increased. A local television network began the announcement of the impending Indian Pass destruction. Attempts to facilitate increased coverage were made and by mid year several networks had sent their first full-time correspondents to the Fort Yuma Indian Reservation. Other media also picked up the story in those few months, newspapers ran several cover stories on the proposed mining project and its negative effects on Indigenous religious sites.

The increased tempo of the ecological co-mingled with anti-native issues began another saga. People, native and non native are involved in National Anti-Destruction protests.

This phenomenon of awareness, concerning the industrial age is best described by Native Americans and other Societies as a period of technological entrancement, an altered state of consciousness. A mental fixation that alone explains why governments always severely damage areas deemed important and many other areas by demonstrating an unwavering dedication to clearing the last forest, mining the last minerals, and diverting and/or damming the last river.

All of these adjustments are intended to conform Indigenous economics to the multi-national corporate drives of the new world economic order. These industrial people get caught in what we call "Species Isolation" that lead to a savage assault upon the earth and its inhabitants.

This causes the experience of a "Sacred" communion with the earth to vanish. When this occurs we can only view this as a betrayal and deception that are at the elbows of many government level talks. We also hear other voices which the government seeks to declare honesty, no matter how nakedly they attempt to strip themselves of the past, they come with the burden of that past on their backs, like a curse they cannot exercise.

As Quechans, we have so many vastly different values, ideas, beliefs of the earth, time, human life and religion. We may use the words of the white man, but may still be speaking a wholly different language.

The Quechan people and other Native Societies are intensely human. The Quechan people are personal and direct, we trust what we see, feel and sense. To know a human being you have to know him, be with him, know him from the inside out. It is necessary for someone who wishes to know the Quechan they must go to the individual, not to visit but to live, not to judge but to learn, the length of time and acquisition of the information are less important than a full heart and an open mind.

To say that we, the Quechan people had no participation in the vast changes surrounding us would be inaccurate. We lived in our world and we interacted with the changing environment. By our silence we gave our tacit approval. No on ever indicated that we would question the process up to now or inquired as to what our opinions of the process was.

Your question now is, should sacred sites should be specific, discrete, and narrowly delineated locations? As Quechans, we believe that our spiritual network stretches deep into Mexico and north into Nevada. But this had no inherent political, nor inevitable social or environmental consequences.

002 There are many problems with Environmental Impact Reports pertaining to Quechan Cultural Resources. They are not rooted in the reports themselves but they are caused by

the way you have chosen to use them.

Our problem has always been supplying your needs as an industrial and technological society.

Beginning hundreds of years ago when you first wanted land and gold. This continues today with coal, oil, uranium, fish and more land to bury nuclear waste. As a government you represent a society and feel that you have the ultimate expression of its evolution in its final flowering. It is this attitude, and its corresponding belief that Indigenous societies represent an earlier and lower rung on the evolutionary ladder.

As Quechan people, we recognize the assumed superiority with which you base your decisions. You believe it is okay to deem insignificant and thus sacrifice any way of life, which stands in the way of so-called governmental progress. In fact, having assumed such superiority, it becomes more than acceptable for you to create a pit, bulldoze nature and destroy native ways of life. To do so actually becomes desirable, inevitable, and possibly divine.

The question to us, as Quechans, do we expect this negative situation to improve through continuing struggle. Tribal political and ceremonial leaders today have assumed the glory and prestige of a leadership position without accountability, this may be the American way
003 of life, but it is not the Native American way of life. The situation is so out of control today we must now demand accountability from those who serve us. The claim of the Congress is that they have plenary power over all Native American affairs this is false, nowhere in the Constitution is there such language.

Because of a few weak-kneed, U. S. Government officials and tribal leaders attempting to work out agreements with Congress, native religions have become a plague throughout the country, in particular the Quechan beliefs seemingly holding up or possibly stopping projects in Imperial County, California and in Yuma County, Arizona. Yet our trustee is no where to be found and in some cases actively opposes the tribal interests.

The U. S. is empowered to furnish scientific and technical information as ways to ascertain oil, gas, and other natural resources. It is also empowered to supervise such operations. These regulations are prescribed by law.

According to the Quechans these rules are not applicable and are inconsistent when pertaining to religious aspects. The American Indian Religious Freedom Act of 1978 states that the Federal government will protect and preserve Native American religious cultural sites and practices. Federal departments are directed to consult with Native American Religious leaders to determine their recommendation for the preservation of religious life ways.

004 Your recommendation for preserving this particular religious site is to create a huge pit,

destroying it. Further sodium cyanide heap leaching is standard in the industry and is considered safe by the Bureau of Land Management. Has this been used this in the past to the BLM's satisfaction? How safe is it for religious activities?

Erect three wildlife guzzlers, that serve as moisture collectors for deer and other animals, move one of the ore heaps away from an area called the trail of dreams and provide three years worth endowment money and a truck so tribal members could engage in a cultural education project full time. We would like to know how you came to the conclusion that the religious area such as Indian Pass has a proposed value. Do you believe that "GOD" should have a set price value?

005 As government officials you should understand that hundreds of treaties with Native American tribes guarantee that tribal hunting, fishing and religious practices will not be subject to U. S. Law. The U. S. already gave the Native American, the right to continue our traditional subsistence activities at our own discretion.

Today we see that such guarantees are under the assault of commercial industries, researching interests by the U. S. government agencies. Each claiming that Native Americans should be bound by the same rules as the rest of the Americans, believing that the treaties and Native religious beliefs are ancient history. This results in a discrimination of freedom of belief and expression for many Native Americans in particular the Quechans.

A misunderstanding of the Freedom of Religion Act, lead many to difficulty finding common ground and the belief that any project can co-exist with Native Americans and nature if given a chance. People are frustrated at what they see as an absolutist position taken by the Quechans, further agencies state that this a moral and legal right. Which will be a test case no matter what the BLM decides.

As Quechans we have introduced a very high standard of the First Amendment to the U. S. Constitution. The protection of American Indian sacred geography, mentioned is an essential part of our lives, the danger goes well beyond the meaning of infringement and borders on extinction. Quechan religion cannot be mitigated like natural resources. Many religious areas have already been destroyed and mitigated because non-Indians believe that Native American religions and sacred sites are not important enough to perserve in their pristine state. Our beliefs are embedded into the soils of the earth along the Colorado River and its basins, we cannot borrow other tribes culture, if and when ours is destroyed.

We are bound by the Quechan Tribal Constitution and By Laws appointed by the Tribal Council to preserve and protect the Quechan cultural resources values and practices.

Respectfully,

7/13/98

Mr. Keeny Escalanti, Sr.
Vice President
Quechan Tribal Council

Mrs. Pauline Owl
Chairperson
Quechan Culture Committee

cc: Quechan Tribal Council
Culture Committee members
Senator Barbara Boxer
Representative Duncan Hunter
Imperial County Board of Supervisors
Imperial County Planning Commission

RESPONSE TO COMMENT LETTER D002 RECEIVED FROM KEENI ESCALANTI, SR., VICE PRESIDENT AND PAULINE OWL, CHAIRPERSON, QUECHAN CULTURE COMMITTEE, DATED APRIL 13, 1998

Response to Comment D002:001: See Responses to Comments A001:005, I012:039 and I012:048.

Response to Comment D002:002: See Response to Comment H001:004.

Response to Comment D002:003: See Responses to Comments E001:013 and I012:048.

Response to Comment D002:004: (The Following Response is Also Applicable to Comment I014:008.) (See Also Responses to Comments E001:009, I012:023, I013:337 and I015:004.) No attempt has been made in the Draft EIS/EIR to place an economic value on any cultural resources in or near the Project area. As discussed at length in Section 3.6. and Section 4.1.6. of the Draft EIS/EIR several cultural resources, such as the Indian Pass-Running Man ATCC, are determined to be culturally significant and eligible for listing on the National Register of Historic Places, based largely upon input from the Quechan. Section 4.1.6.3. (pages 4-84 through 4-87) of the Draft EIS/EIR proposes several mitigation measures to avoid or reduce potentially significant impacts, but Section 4.1.6.4. (page 4-87) of the Draft EIS/EIR makes clear that these mitigation measures will not mitigate all impacts below the level of significance. Nothing in the Draft EIS/EIR implies that the cultural resources are characterized by a particular monetary value. The cultural values associated with the Project area are substantial, but translation of these cultural values into economic values is not possible or desirable.

Revisions to the Final EIS/EIR: None.

Response to Comment D002:005: (The Following Response is Also Applicable to Comments H001:007, I012:001, I012:003, I012:004, I012:005, I012:006, I012:019, I012:020, I012:030, I012:043, I012:050, J026:002, J027:002 and M015:001.) The Draft EIS/EIR discusses in depth in Section 3.6. and Section 4.1.6. (and in Appendix L to the Draft EIS/EIR) the cultural resources identified within the Project area, their meaning to the Quechan tribe, and the probable effects of the Project on these resources and the Quechan's culture and religion, although no burial sites were identified within the area of potential effect (APE) for the Project. However, discussion of any possible infringement of the Project on the Quechan Tribe's First Amendment rights is an issue which the BLM considers more appropriately as part of the BLM's decision-making process regarding the Plan of Operation, rather than as part of the environmental assessment required under NEPA, and this issue will be appropriately addressed in the Record of Decision.

RESPONSE TO COMMENT LETTER D002 RECEIVED FROM KEENI ESCALANTI, SR., VICE PRESIDENT AND PAULINE OWL, CHAIRPERSON, QUECHAN CULTURE COMMITTEE, DATED APRIL 13, 1998

The comment does not directly address the adequacy of the Draft EIS/EIR, the cultural resource surveys, or the consultation process. However, the Draft EIS/EIR has been prepared in compliance with the National Environmental Policy Act, the National Historic Preservation Act, the California Environmental Quality Act, and other federal and state laws. Based largely upon Native American consultation, the Draft EIS/EIR concludes that significant, unmitigated impacts to religious sites and other cultural resources will result from the Project (see Section 4.1.6.4. [page 4-87] of the Draft EIS/EIR).

Revisions to the Final EIS/EIR: None.

3 COMMENTS LETTERS CONTAINING SUBSTANTIVE COMMENTS AND RESPONSES TO THESE COMMENTS ON THE DRAFT EIS/EIR

GOVERNMENT AGENCIES — FEDERAL

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY **E001**
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

MAR 19 1998

Bureau of Land Management
Attn: Douglas Romoli
1661 South 4th Street
El Centro, California 92243

Dear Mr. Romoli:

The U.S. Environmental Protection Agency (EPA) has reviewed the Draft Environmental Impact Statement (DEIS) for the **Imperial Project, Imperial County, California**. The DEIS replaces a previous, and subsequently withdrawn, DEIS, dated November 1996, and contains substantial revisions and additional analyses and assessment of the potential environmental
001 effects of the proposed action. Our comments are provided pursuant to the National Environmental Policy Act (NEPA), the Council on Environmental Quality's NEPA Implementation Regulations at 40 CFR 1500-1508, and Section 309 of the Clean Air Act.

The DEIS analyzes the impacts of a proposed precious metal mining project which would, under BLM's preferred alternative (the project), involve excavation of three open pits, construction and operation of a heap leach facility, creation of two overburden rock piles, and construction/operation of ancillary facilities, including a well field/pipeline and access road realignment and power line modifications. The project would disturb approximately 1362 acres over a period of about twenty years and involve the excavation of up to 150 million tons of ore and 300 million tons of waste rock.

EPA has been previously involved with the Imperial Project. In addition to our comment letter, dated January 31, 1997, addressing the earlier DEIS, our Water Office reviewed a jurisdictional determination of the "waters of the United States," which included a field visit to the site on June 17, 1997. The U.S. Army Corps of Engineers (Corps) has responsibility to ensure compliance with the 404 program; however, under memorandums of understanding between the Corps and EPA, EPA has authority in jurisdictional determinations, enforcement/permit review, and mitigation guidance.

We have rated this DEIS EO-2 -- Environmental Objections-Insufficient Information. (See the enclosed "Summary of Rating Definitions and Follow-up Action"). This rating reflects our objections over potential impacts to approximately 77 acres of "waters of the United States" which could conceivably be avoided or minimized by project modification or implementing other feasible alternatives. We commend BLM for acknowledging several of the comments we made

on the withdrawn version of the November 1996 DEIS, specifically those concerning the need for a CWA Section 404(b)(1) analysis. However, the analysis included as an appendix in the new DEIS, contains insufficient information to determine whether the preferred alternative is truly the least environmentally damaging practicable alternative pursuant to Section 404.

In addition, we believe that other critical issues such as the anticipated impact to Native American cultural and paleontological resources, and the associated impacts to sacred sites add controversy to the proposal and lowers the threshold for determining the significance of the overall project's environmental impacts. EPA's objections and concerns are discussed in greater depth in our detailed comments, enclosed.

We appreciate the opportunity to review this DEIS and will contact you in the near future to discuss our objections and concerns. We request that two copies of the FEIS be sent to this office, attention David Farrel, at the letterhead address (mail code CMD-2) when it is officially filed with our Washington, D.C., office. Should you have any questions, please contact me at (415) 744-1566, David Farrel (Federal Activities Office Chief) at (415)744-1584, or Karl Kanbergs of the Federal Activities office at (415) 744-1483.

Sincerely,

Deanna M. Wieman, Deputy Director
Cross-Media Division

002423/97-359
Enclosures (2)
cc: John L. Morrison, Imperial County Planning/Building Dept.

SUMMARY OF RATING DEFINITIONS AND FOLLOW-UP ACTION

Environmental Impact of the Action

LO-Lack of Objections

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC-Environmental Concerns

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

EO-Environmental Objections

The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU-Environmentally Unsatisfactory

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of environmental quality, public health or welfare. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommend for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement

Category 1-Adequate

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2-Insufficient Information

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

Category 3-Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From: EPA Manual 1640, "Policy and Procedures for the Review of Federal Actions Impacting the Environment."

ALTERNATIVES ANALYSIS AND PROJECT PURPOSE

002 NEPA

In section 1.7 of the DEIS, entitled "Purpose and Objectives of the Proposed Action," BLM describes Glamis Imperial Corporation's (Glamis) project purpose. We presume that this section corresponds to NEPA requirements at 40 CFR 1502.13 requiring an EIS to address "Purpose and Need." BLM defines the project purpose (pg. 1-16): "...to develop and operate a mine to recover the gold and silver ore resources from these valuable mineral deposits identified on mining claims which have been staked or acquired by Glamis Imperial Corporation under the General Mining Law of 1872." EPA questions this definition. Under NEPA, a project's purpose may not be defined too narrowly, or it may limit the range of alternatives analyzed. NEPA considers alternatives analysis to be the "heart of the environmental impact statement" and requires that such analysis be rigorous and objective [40 CFR 1502.14]. BLM should also describe the project need, which is not necessarily synonymous with the listed project objectives.

Glamis Gold Limited's website home page (www.glamis.com) provides the company's mission statement which is "...being a low-cost, high-volume producer of gold in the most environmentally sound manner for the benefit of its shareholders, employees and communities." EPA suggests that project purpose and need would be to mine gold and silver in an environmentally sound manner (purpose) at a profit (need). Thus, in the alternatives section, BLM should expand its analysis of alternative potential mining sites that would have potentially less environmental impacts. Similarly, BLM should more rigorously examine the reduced size alternatives, such as the East Pit Alternative, to determine whether any of them would meet such a purpose and need.

As stated in 40 CFR 1508.27(b)(3), when determining the significance (of impacts), agencies must consider "unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic river, or ecologically critical areas." In this instance, in addition to potentially serious impacts to aquatic resources, the proposed project would have direct and possibly un-mitigable impacts to Native Americans and would be located within visual and aural distance of two wilderness areas, and in close proximity to an area of critical environmental concern and a Desert Tortoise Critical Habitat Area; within BLM's California Desert Conservation Area, and within the area of the Indian Wash Habitat Management Plan.

It is evident that the proposed action, and indeed the preferred alternative, has the potential for intense environmental impacts. Given that, we recommend that BLM seriously consider alternatives such as reducing the scale of mining operations, mining in other locations; and "no action." We also recommend that BLM identify and discuss an environmentally preferred

alternative in the FEIS, pursuant to CEQ's "40 Questions" (6a and 6b). "No action" should be factored into your analysis of the environmentally preferred alternative.

003 Appendix N-CWA 404(b)(1) Alternative Analysis

The draft 404(b)(1) alternatives analysis does not demonstrate compliance with EPA's 404(b)(1) Guidelines. The following comments provide the rationale for our conclusion, **within the context of CWA Section 404:**

Project Purpose - The proposed project's purpose is to mine gold and silver. For the purposes of determining compliance with 40 CFR 230.10(a), EPA Region IX considers that the term "overall project purpose" means the basic project purpose plus consideration of costs and technical and logistical feasibility. Therefore, the term "overall project purpose" should not include (1) project amenities, (2) a particular return on investment (unless a certain minimum return can be shown to render a project impracticable), (3) highest and best use of the land, or (4) certain desired size requirements. EPA Region IX consistently treats the basic project purpose as the generic function of the activity. In determining the project purpose as described above, EPA ensures that only projects that absolutely need to be sited in waters of the United States are authorized.

Geographic Scope of the Alternatives Analysis - The geographic scope proposed by the applicant is too narrow for the purposes of the alternatives analysis. In defining the project purpose as mining gold and silver, the analysis should include all areas that would be reasonable to consider in this particular industry. The FEIS should include a review of other mining districts and mining properties that Glamis Imperial Corporation has considered, or should consider, in meeting its Purpose and Need.

Mitigation and the Determination of Practicable Alternatives - In describing impacts related to Section 404 of the CWA and a determination of the proposed project as being the least environmentally damaging practicable alternative, the applicant describes mitigation measures designed to reduce potential environmental impacts to levels less than significant. We disagree with an analysis that considers mitigation before considering and undertaking avoidance of impacts. EPA's 404(b)(1) Guidelines (Guidelines) are written hierarchically to ensure that efforts are first made to achieve the objective of the CWA to eliminate all discharges of pollutants into the nation's waters. Discharges that can be avoided practicably, must be avoided. Compensatory mitigation should only be used to offset unavoidable impacts that remain.

Determination of Practicability - There is insufficient information in the draft alternatives analysis to determine practicability of the alternatives. Table A does not provide sufficient useful information. The Guidelines define practicable as available and capable of being done taking into account cost, existing technology, and logistics (40 CFR 230.10(a)(2). The conclusion in the alternatives analysis states that in evaluating the East Pit and West Pit alternatives, the amount of recoverable ore would be substantially reduced without a proportionate reduction in costs and that the operation of either alternative would exceed revenue. The applicant has provided insufficient documentation to support this conclusion. In determining practicability, a project alternative that achieves a smaller return on investment than the applicant's preferred alternative may be considered practicable for the purposes of 404 permitting, even though that alternative may not be financially acceptable to a particular applicant. In addition, it is important to note that "sunk costs" associated with one site cannot be assigned to an alternative. In evaluating alternatives under the Guidelines, these "sunk costs" cannot be added to the costs of developing a less damaging design or site.

In conclusion, a much more detailed analysis is required in order to determine compliance under EPA's 404(b)(1) Guidelines. This includes, but is not limited to, an increase in the geographic scope of the alternatives, a more thorough assessment of the direct and indirect impacts to the environment for each of the alternatives, comparisons of the costs and profits associated with ongoing gold and silver operations, and comparisons of costs and profits associated with the alternatives proposed in the DEIS.

AQUATIC RESOURCES

004 Surface Waters

P. 4-9 and 4-49. The Proposed Action would include the diversion of segments of five existing - ephemeral watercourses and the permanent filling or excavation of tributaries of these watercourses. All diversions divert water entering the proposed project mine and process area to other segments of these same washes, which then flow naturally through or around the proposed project mine and process area.

The DEIS states that all water entering the proposed project mine and process area would be diverted to down gradient segments of these same washes. However, the document does not account for the potential significant effects of the loss of headwater tributaries within the proposed project impact areas, which form an integral part of the watersheds of the three major washes on the site. These effects should be discussed in the FEIS.

In addition, EPA does not concur with the statement in the DEIS that there would be no substantial alteration of stream flows or patterns outside of the proposed mine and process area. We do not understand how the diversion channels approximate the channel gradient and geometry of the original drainage system. Diverting flow from a 1571-acre watershed, with dozens of tributaries, into three primary diversion channels may significantly change the hydrology and hydraulic properties of waters of the U.S. located upstream and downstream of the diversions. Increased sediment transport, acceleration of downstream erosional processes such as scour, and channel head cutting and entrenchment have the potential to adversely impact proposed revegetation of wash habitat as well as habitat upstream and downstream of the proposed project site. These issues should be discussed in the FEIS.

The DEIS states that minor, ephemeral tributaries which are truncated by certain proposed project facilities would have a reduction in runoff flow, but that this flow reduction would not be significant. Based on our review of the document, it appears that several tributaries supporting the East Pit East Wash would be directly affected by the proposed mine development activities. Sufficient supporting information for a finding of insignificant impacts to wash hydrology and existing biogeochemical processes has not been provided, but should be in the FEIS.

005 P. 4-13. The DEIS states that the proposed project would result in direct impacts to 77.4 acres of waters of the U.S. Indirect impacts to waters would also occur both within and immediately adjacent to the proposed project mine and process area, principally through truncation, isolation, and/or dewatering of a given reach of drainage course. The DEIS does not assess and quantify these indirect impacts. A quantitative assessment of indirect impacts should be provided in the FEIS.

Similarly, the FEIS should provide a more thorough assessment of the direct and indirect impacts on the functions performed by waters of the United States. In 1990, the EPA and Corps of Engineers signed a Memorandum of Agreement concerning the determination of mitigation under the Clean Water Act (CWA) Section 404(b)(1) Guidelines, endorsing a goal of no overall net loss of wetland values, functions, and remaining acreage base. In keeping with this goal, the FEIS should thoroughly assess impacts to functions provided by waters such as: 1) surface and subsurface water storage and exchange; 2) sediment mobilization, transport and deposition; 3) energy dissipation; 4) landscape hydrologic connections; 5) element and compound cycling; 6) maintenance of plant and animal communities; 7) maintenance of faunal interspersion and habitat connectivity; and 8) support of invertebrate and vertebrate assemblages.

006 Figure 2.9. This figure is difficult to evaluate. It is not possible to accurately determine the landscape context, dimensions, or general configuration of the proposed diversions. The FEIS should provide improved maps or aerials depicting the proposed diversions.

007 P. 4-52. EPA does not agree with the statement that the diversion channels would continue to

provide the same flow and quality of water into the major washes down gradient of the proposed project site. Such a conclusion assumes that the 77.4 acres of waters of the United States proposed to be affected is not important to the functioning of contiguous waters. The DEIS contains no information to support a finding of no change in flow parameters or water quality. The FEIS should provide a quantitative assessment of impacts from the loss of ephemeral tributaries on the hydrology, hydraulics and water quality of down gradient washes.

Following compliance with the 404(b)(1) Guidelines, the applicant must mitigate for the unavoidable impacts that remain. Additional information is needed to determine the direct and indirect impacts to waters of the U.S. Mitigation should compensate for impacts to acreage and function of waters of the United States.

P. 5-13. The DEIS does not disclose the basis for the geographical area upon which the cumulative impact analysis is based. Does the geographic area correspond to some logical physiographic, hydrologic, or biological unit? The DEIS estimates that approximately 5% of the
008 200,000 acres within the project area are composed of wash systems. The DEIS then assumes that 4% -8% of this 200,000 acres (7,680 -15,360 acres) is existing microphyll woodland habitat. Clearly, all the wash habitat is not microphyll woodland habitat (see Figure 3.15). BLM should quantify what proportion of wash habitat is microphyll woodland. Furthermore, we disagree with the conclusions of the DEIS that the cumulative impact on microphyll woodland habitat is below the level of significance.

Heap Leach Facilities

Additional information should be presented in the FEIS to assure the public that the proposed
009 heap leach facilities would be very unlikely to malfunction with respect to liner rupture and/or overflow or breach due to natural or man-induced causes. Stating that a similar heap leach pad design was approved by the California Regional Water Quality Control Board (CRWQCB) does not satisfy NEPA requirements that an EIS should include full and fair discussion [40 CFR 1502.1] of impacts from various alternatives and provide accurate scientific analysis and expert agency comments [40 CFR 1500.1(b)].

In chapter 2, the DEIS describes the liner system in a very general way. The design utilizes a composite polyvinyl chloride (PVC) liner system with incorporation of geotextile and bedding layers (Figure 2.6 of the DEIS). We note that many mining operations throughout the western U.S. use high density polyethylene (HDPE) liners. The FEIS should describe why a PVC liner is preferred, and discuss compatibility of the system with site and proposed project physical and chemical conditions. BLM should also describe any other applicable operations that use PVC and outline the history of regulatory compliance with respect to liner performance. Furthermore, we ask that BLM explain the significance of the geotextile placement, and what assurances (compatibility tests, etc.) have been taken to assure that ore or bedding layer material would not

puncture the PVC layers. The potential for UV damage to the geotextile or liner should also be discussed in the FEIS.

BLM describes the affected environment as a seismically active area, although no known active fault traces underlie the site. The leach pad is designed for internal storage of all cyanide-bearing solutions. As such, the perimeter berm is essentially acting as a dam. The FEIS should provide
010 additional, scientifically based comments to explain how the facilities would be designed to withstand anticipated seismic events, and applicable regulations. EPA is also concerned about a potential breach of the perimeter berm. What are the design criteria with respect to static and pseudo-static loading and what is the factor of safety? These criterion are routinely used to assure conformance of a project design within regulatory requirements. The use and function of these criteria, if applicable, and a rationale for the selected values, should be provided in the FEIS. Also, if low permeability clay material is used in later heap leach pad construction, could this possible design change induce heap instability or failure? Would a switch to the clay liner system require additional permitting? The FEIS should address these issues.

The combined heap leach facility, including process and overflow ponds is designed to contain
011 the maximum probable one (1)-hour storm event, occurring simultaneously with a 24-hour power outage. BLM should explain in the FEIS why the one hour event was chosen, and also if backup power would be available in the event of a longer power outage or unforseen events that would reduce estimated storage capacity in the heap or ponds.

Pit Lakes

BLM should explain why backfilling of the west pit could not occur if mining is suspended or terminated early (pg. 4-55), especially if enough waste rock is available. We recommend that
012 additional bonding be required for this contingency. Under this scenario, BLM should provide further justification why there would not be significant impacts to biologic resources if a pit lake were to form. These issues should be fully discussed in the FEIS, including monitoring and mitigation provisions in event of early mine closure.

ENVIRONMENTAL JUSTICE/AMERICAN INDIAN RELIGIOUS FREEDOM

EPA is seriously concerned about possible unavoidable significant impacts to Native American cultural and paleontological resources, including impacts related to the use of sacred sites. We
013 commend BLM for including Appendix L, *Where Trails Cross: Cultural Resource Inventory and Evaluation for the Imperial Project, Imperial County, California*, which describes some of the spiritual beliefs of the Quechan and suggests that the proposed mine could significantly affect, possibly destroy, the use of the site by the Quechan people. According to the DEIS, "physical disturbance within the project mine and process area will occur to significant Native American

trails and will cut-off the ability of the Quechan to travel physically and spiritually along the Trail of Dreams." The religious significance and the significance of the Trail of Dreams as an integral part of Quechan religious practice is also explained.

The American Indian Religious Freedom Act (AIRFA, or the Act) of 1978 (PL 95-341; 42 USC 1978), in Section 1 states that it is:

> "...the policy of the United States to protect and preserve for American Indians their inherent right of freedom to believe, express, and exercise the traditional religions of the American Indian... including but not limited to access to sites, use and possession of sacred objects, and freedom to worship through ceremonials and traditional rites."

House Report No. 95-1308 (legislative history of the Act) also states that "... denial of access to Indians...to certain [sacred] sites... is analogous to preventing a non-Indian from entering his church or temple." The intent of this legislation (as stated in Section 2) is to ensure that the policies and procedures of various Federal agencies would be in conformance with the Act. Similarly, Executive Order 13007, "Indian Sacred Sites," directs agencies to "avoid adversely affecting the physical integrity of... sacred sites." Initiation of consultation with Native American tribes is commendable, but is also the only response to mandates of AIRFA that the DEIS acknowledges. The FEIS should contain an in-depth discussion of the range of orders, acts, and guidance related to Native American issues associated with the Proposed Action.

On page 4-126 of the DEIS, BLM states that it has limited agency discretion, deferring to "Section 3 of the 1872 Mining Act... [that] gives exclusive right of 'possession and enjoyment' of the surface within the boundaries of a valid mining claim to the mining claimant." But Section 101(b) of the National Environmental Policy Act (NEPA) states that "... it is the continuing responsibility of the Federal Government to use all practicable means, consistent with other essential considerations of national policy, to improve and coordinate Federal plans, functions, programs, and resources to the end that the Nation may... preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity, and variety of individual choice." In Section 102, NEPA states that "all agencies of the Federal Government shall... [give] appropriate consideration **in decision making** (emphasis added) along with economic and technical considerations."

BLM should discuss the functional relationships and conflicts between the Proposed Action and the objectives of Federal land use plans, policies and controls for the area concerned [40 CFR 1502.16(c)]. BLM should also discuss the Department of Interior's environmental justice strategy, pursuant to Executive Order 12898, and explain how the potentially un-mitigatable impacts resulting from BLM approval of the Proposed Action comport with the guidance provided in the executive order. We recognize that the DEIS does contain a discussion of the cumulative impacts from past mining activities in context of the Quechan culture and religion;

however, BLM should discuss how the preferred alternative, the Proposed Action, in combination with past cumulative effects, is in keeping with the (Federal) goal of achieving environmental justice.

In summary, EPA encourages BLM to fully consider the unique characteristics of the proposed project area, potential environmental justice issues, and Native American concerns in its decision making process.

CUMULATIVE IMPACTS

The recently completed CEQ report, *Considering Cumulative Effects Under the National Environmental Policy Act* contains useful information on methods which BLM could use to craft
014 a more effective cumulative impacts section. A cumulative effects analysis, as described in that publication, should include past present and future actions, including all federal, nonfederal, and private actions. The description of the affected environment should focus on each affected resource or ecosystem. Determination of the affected environment should not be based on a predetermined geographic area, but rather on perception of meaningful impacts and natural boundaries.

The cumulative impact analysis should include an analysis of the anticipated **temporal** effects of water diversions from the combined effects of ongoing or anticipated mining operations. The FEIS should define a hydrologic area of influence and also describe potential cumulative impacts to the nearby tortoise habitat and the wilderness areas. As noted in our comments under "Aquatic Resources", the FEIS should thoroughly assess impacts to functions provided by affected Waters of the U. S.

EPA appreciates a discussion of the surrounding mining activity at American Girl, Picacho and
015 Mesquite. It is very important however, that the FEIS provide more detail on impacts that have resulted from this mining activity. Specifically, the FEIS should include:

- the history of any upset conditions that resulted in the release of significant quantities of cyanide-bearing solution;

- the history of any wildlife kills, including those related to normal operations of pregnant ponds;

- summary of available monitoring data and analyses from other mine sites with environments similar to the proposed Imperial Project;

- information on any measured effects to vegetation resulting from wash diversions;

- information on any quantified or qualified impacts to surrounding ecosystems.

The cumulative impact analysis should also describe, in more detail, the success and/or failures of reclamation activities to date at similar operations. These discussions in the FEIS would be extremely relevant to gage the potential impacts from the proposed project and to possibly craft additional monitoring and enforcement provisions regarding protection of ecological resources

While the DEIS accurately states that "mineral exploration activities are ongoing to some extent at each of the mines within the cumulative impact study area," we do have serious concerns with the premise that the impacts from these mines are of no concern since "...they have already been accounted for in the impacts resulting from the mine operations themselves." (Page 5-5) The purpose of undertaking a cumulative impacts analysis is to examine, discuss, and consider the total scope of impacts being imposed upon the environment rather than focusing only on those impacts directly attributable to a proposed action.

BLM should ensure that the FEIS contains a full disclosure of the true scope of potential incremental impacts resulting from past, present, and reasonably foreseeable future actions pursuant to 40 CFR 1508.7. It is difficult, for example, to envision how existing mine operations could have accounted for all of the incremental impacts which have taken place over time or
016 those which could take place in the future. Specifically, at each of the mines, the location of additional orebodies, the chemical and physical characteristics of those orebodies and the size of future operations and expansions should be factored into the cumulative impacts analysis for the proposed project. For instance, the potential acquisition of federal minerals to expand the Mesquite mine should be discussed in the Cumulative Impacts Section. A better description of the known mineral potential and proven, probable, and possible mineralization within the vicinity of the described mines should also be provided in the FEIS.

In addition, the FEIS should acknowledge and discuss any **known** mineralization, either adjacent to the proposed project or at greater depths, which could possibly be mined in the future - even if it is currently uneconomic. For example, we acknowledge that the orebody at the proposed project site appears to be oxidized and the acid generation potential appears to be low. However, we also understand that substantial quantities of rock at Orocruz (American Girl Project) contain sulfides. The size and duration of the proposed Imperial mining activities suggest that it is possible that sulfide-bearing mineralization and/or waste rock could be encountered in the future which may have an impact on biologic resources. Given that, we would expect that the BLM would discuss in the Cumulative Impacts Section, as appropriate, whether mineralization which could be mined in the future has the potential to be sulfide bearing, and if so, identify the expected impacts from subsequent operations. We also recommend that BLM include monitoring and reporting provisions to safeguard against unexpected quantities of sulfide-bearing material.

Within the context of cumulative impacts, BLM should also discuss traffic from current, proposed, and potential future mine operations; particularly focusing on traffic-related impacts to wildlife.

RECLAMATION

EPA recommends that reclamation activities strive to achieve pre-mining ecosystem attributes. We question the possible modification of the ecosystem by adding the endemic fairy duster and winged forget-me-not to the revegetation mix. This should be discussed in the FEIS. BLM
017 should also include in the FEIS a discussion of the applicability of a reclamation design that focuses re-planting according to compatibility with the post-mining micro-environments. For instance, would south-facing slopes be planted and/or seeded differently than north-facing slopes. A thorough analysis of "successes and failures" at other nearby mine sites should be incorporated into reclamation plans and discussed under cumulative impacts.

BIOLOGIC RESOURCES

EPA has information that several common plant species, known to occur in the area, were not listed in the Vegetation Baseline Survey (Appendix F). Apparently the relatively common
018 species *Pectis papposa* and *Datura discolor* were omitted. The baseline report notes that pre-survey climatic conditions were such that "the results of the vegetation survey should be interpreted as representing the highest cover and diversity possible for the Imperial Project area." EPA therefore questions the credibility of the study and we ask that BLM discuss this issue in the FEIS, and note whether additional survey(s) may be necessary.

Within the CDCA plan, the proposed mine falls within the Indian Wash Habitat Management
019 Plan (HMP), where the objective is to "protect, stabilize, and/or enhance" wildlife resource values in the area. The DEIS notes that the Indian Wash HMP has not been implemented. BLM should explain in the FEIS why the plan has not been implemented and its obligations to protect wildlife resource values in the context of the Proposed Action.

TOXIC RELEASE INVENTORY REPORTING

BLM and Glamis should note that on May 1, 1997, EPA added metal mining to the list of
020 industries that will soon be subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) and section 6607 of the Pollution Prevention Act of 1990 (See 40 CFR Part 372, *Addition of Facilities in Certain Industry Sectors; Revised Interpretation of Otherwise Use; Toxic Release Inventory Reporting;*

Community Right-to-Know; Final Rule, Federal Register: May 1, 1997, pages 23833-23892). Reporting for mining facilities will be effective beginning with the 1998 reporting year. The first reports from all metal mining facilities must be submitted to EPA and the State by July 1, 1999. For specific information regarding the final rule, you may wish to call Mr. Tim Crawford, EPA Headquarters, at (202) 260-1715; e-mail: crawford.tim@epamail.epa.gov.

RESPONSE TO COMMENT LETTER E001 RECEIVED FROM DEANNA M. WIEMAN, DEPUTY DIRECTOR, CROSS MEDIA DIVISION, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, DATED MARCH 19, 1998

Response to Comment E001:001: (See Also Responses to Comments E001:003 and E001:003 and E001:013) Comment noted.

Revisions to the Final EIS/EIR: None.

Response to Comment E001:002: Comment noted. However, BLM disagrees with the suggestion that the Final EIS/EIR should contain a new, more general statement of purpose and objectives (purpose and need). As stated in Section 1.7 ("Purpose and Objectives of the Proposed Action") [pages 1-15 and 1-16], "The purpose of the Proposed Action is to develop and operate a mine to recover, consistent with federal laws and regulations, the gold and silver ore resources from these mineral deposits identified on mining claims which have been staked or acquired by Glamis Imperial Corporation under the General Mining Law of 1872." The purpose of a proposed action to mine certain mineral deposits is necessarily limited by the geographic location of those mineral deposits. Although some types of projects, such as rights-of-way, can potentially be developed in a number of alternative locations, this is not true with proposals to mine specific mineral deposits.

BLM also believes that the analysis of the reduced project alternative contained in the Draft EIS/EIR is consistent with the purpose and objectives stated in the Draft EIS/EIR, and no new reduced alternatives need be analyzed. As an additional note, the California Environmental Quality Act (CEQA) Guidelines specifically recognize that alternative locations are not feasible for certain types of projects, including mining projects ("If the lead agency concludes that no feasible alternative locations exist, it must disclose the reasons for this conclusion, and should include the reasons in the EIR.

For example, in some cases there may be no feasible alternative locations for a geothermal power plant or mining project which must be in close proximity to natural resources at a given location." [14 CCR 15126(d)(5)(B)(2)]). This suggested analysis and disclosure is presented in Section 2.2 (pages 2-51 through 2-75) of the Draft EIS/EIR. The issue of broadening the location of where to mine is distinct from considering how to recover minerals in a manner least disturbing to the human environment

40 CFR1508.27 states that the term "significantly," as used in NEPA, requires considerations of both context and intensity, and that the following should be considered in evaluating intensity: "Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas."

RESPONSE TO COMMENT LETTER E001 RECEIVED FROM DEANNA M. WIEMAN, DEPUTY DIRECTOR, CROSS MEDIA DIVISION, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, DATED MARCH 19, 1998

[40 CFR1508.27(b)(3)]. All of the areas of concern expressed by the EPA have been adequately addressed in the Draft EIS/EIR, and the effects of the Project on some (but only some) have been found to be significant. As expressly stated in the Draft EIS/EIR, the Project area is not located in, or near to, any prime farmlands or wild and scenic rivers (Section 3.12, page 3-112, of the Draft EIS/EIR), and there are no wetlands in or near the Project mine and process area (Section 3.3.1.4., page 3-17, of the Draft EIS/EIR). As also stated in Section 3.9.2.3. (page 3-104) of the Draft EIS/EIR, the closest park lands (the Picacho State Recreational Area) are located about six miles northeast of the Project mine and process area, along the Colorado River and on the opposite side of the Chocolate Mountains from the Project; and there is no known plan or proposal to incorporate the Project area or vicinity into either the state or federal park system. Section 4.1.7.2., Section 4.1.8.2., and Section 4.1.9.2. of the Draft EIS/EIR describe the visual, noise, and land use/recreation impacts, respectively, of the Project on the two wilderness areas; none of these impacts were judged to be significant. The impacts of the Project on the cultural resources (including the BLM area of critical environmental concern, created to protect cultural resources found in the area) are extensively discussed on pages 3-81 through 3-94 and pages 4-78 through 4-87 of the Draft EIS/EIR. The Draft EIS/EIR found that the impact of the Project on the resources within the Project area (but not the ACEC itself) would be significant and adverse, even after implementation of the mitigation measures specified in the Draft EIS/EIR. The discussion of desert tortoise critical habitat, located at its closest approximately two miles from the Project mine and process area, is discussed in Section 3.5.6.1. (page 3-63) of the Draft EIS/EIR. Discussion of the California Desert Conservation Area (CDCA)(Section 1.6.1, Section 3.5.4.2., Section 3.7.1., Section 3.9.1, Section 4.1.7.2., and Section 4.1.9.2.) and the Indian Wash Habitat Management Plan (Section 3.5.4.2.) are also contained in the Draft EIS/EIR. No significant effects after mitigation were determined, although the visual effects of the Project were determined significant because of the level of protection afforded the area as classified under the CDCA.

Revisions to the Final EIS/EIR: None

Response to Comment E001:003: (The Following Response is Also Applicable to Comment E001:001.) Comment noted. The comment notes that the alternatives analysis contained in Appendix N, "Imperial Project Draft 404(b)(1) Alternatives Analysis," is insufficient for the purposes of the Clean Water Act Section 404 process. Appendix N of the Draft EIS/EIR is referenced only in Section 4.1.3.1.2. (page 4-13) of the Draft EIS/EIR as the source of the assessment of the acreage of "waters of the United States" which would be affected by discharges of dredged or fill material by Project activities within the Project mine and process area. The alternatives analysis contained in Appendix N of the Draft EIS/EIR is not specifically referenced in, nor utilized

RESPONSE TO COMMENT LETTER E001 RECEIVED FROM DEANNA M. WIEMAN, DEPUTY DIRECTOR, CROSS MEDIA DIVISION, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, DATED MARCH 19, 1998

by, any section of the Draft EIS/EIR, and no portion of the analysis in, nor any of the conclusions of, the Draft EIS/EIR rely upon the alternatives analysis contained in Appendix N of the Draft EIS/EIR.

With regard to EPA's suggestion that the Final EIS/EIR should include a review of other mining districts and mining properties, BLM believes that a review is not necessary in this instance (see Response to Comment E001:002). The purpose of a proposed action to mine certain mineral deposits is necessarily limited by the geographic location of those mineral deposits. Although some types of projects, such as rights-of-way, can potentially be developed in a number of alternative locations, this is not true with proposals to mine specific mineral deposits. As an additional note, the California Environmental Quality Act (CEQA) Guidelines specifically recognize that alternative locations are not feasible for certain types of projects, including mining projects ("If the lead agency concludes that no feasible alternative locations exist, it must disclose the reasons for this conclusion, and should include the reasons in the EIR. For example, in some cases there may be no feasible alternative locations for a geothermal power plant or mining project which must be in close proximity to natural resources at a given location." [14 CCR 15126(d)(5)(B)(2)]). This suggested analysis and disclosure is presented in Section 2.2 (pages 2-51 through 2-75) of the Draft EIS/EIR.

Revisions to the Final EIS/EIR: None.

Response to Comment E001:004: (The Following Response is Also Applicable to Comments E001:006, E001:007, I008:014, J001:005, J007:003 and J011:002.) The purpose of the five diversion channels is not to be "diverting flow from a 1,571-acre watershed, with dozens of tributaries, into three major diversion channels." While it is true that the entire Project mine and process area is approximately 1,571 acres in area, very little, if any, of the precipitation which falls within the Project mine and process area will end up in any of the five diversion channels. As stated in Section 2.1.9.7. (page 2-28) of the Draft EIS/EIR, "Several ephemeral drainages would be permanently diverted around the facilities located within the Project mine and process area." As can be seen in Figure 2.9, these diversions are relatively short channels (the longest being less than 3,000 feet), each located at the upstream edge of the Project mine and process area. Here they are designed to intercept any flows entering the Project mine and process area in selected washes, divert this flow around the Project facilities, and then immediately discharge this flow back into the same wash or wash system from which it originated, so that the flow can then proceed downstream through the Project mine and process area in the same natural channel it started in. As stated in Section 4.1.3.1.2. (page 4-9) of the Draft EIS/EIR, "All other storm water surface flows entering the

RESPONSE TO COMMENT LETTER E001 RECEIVED FROM DEANNA M. WIEMAN, DEPUTY DIRECTOR, CROSS MEDIA DIVISION, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, DATED MARCH 19, 1998

Project mine and process area which would not otherwise impact Project facilities would flow through the Project mine and process area."

As stated in Section 2.1.9.7. (page 2-29) of the Draft EIS/EIR, the "diversion channels would be built to approximate the original drainage system in both gradient and channel geometry (see Figure 2.10)." The diversions will be constructed with a longitudinal slope similar to the existing washes, and there will be no significant increases in slope in order to maintain the existing flow pattern of velocity and minimize any changes in erosive characteristics. The cross-sectional geometry of the diversions, as shown in Figure 2-10 and Figure 7 of Attachment D of Appendix A to the Draft EIS/EIR, will also approximate the existing washes, including the "flood bench" areas adjacent to the central channels over which the highest flows would spread (see Section 4.1.3.1.1., page 4-9, of the Draft EIS/EIR) and on which the microphyll vegetation would be planted. The alignment of the new diversions will also be designed to mimic existing wash alignments, again to minimize the potential for change to the present erosion patterns. See specifically Mitigation Measures 4.1.3.1-1 and 4.1.3.1-5 (page 4-16) of the Draft EIS/EIR.

Downstream sedimentation would be reduced to below the level of significance by the use of Best Management Practices, as described in Section 4.1.3.1.2. (page 4-10) of the Draft EIS/EIR:

> "Best management practices to reduce the potential for erosion have been incorporated into the Proposed Action (see Section 2.1.11.2.3. and Section 4.1.2.3.) which would also substantially reduce the potential for sedimentation in the ephemeral stream channels. These include placing rip rap on the outside bends of diverted stream channels, providing setbacks of facilities (such as the waste rock stockpiles) from the banks of throughgoing washes, placing berms around facilities as appropriate, and installing sediment basins around the facility designed to capture run off from the 100-year, 24-hour storm event for the entire Project mine and process area. In addition, the heap benches and berms would be constructed to provide for 100 percent containment of the precipitation from the 1-hour probable maximum precipitation (PMP) design storm event. . . . Erosion control methods around facilities other than the heap leach would be designed to manage not less than a 20-year, 1-hour intensity storm event, in accordance with standards established by 14 CCR 3706(d) (SMARA regulations). The Proposed Action also includes compliance with the conditions
>
> of the Storm Water NPDES General Permit applicable to the Project, and preparation and compliance with the requirements of a Storm Water Pollution Prevention Plan (SWPPP) to

RESPONSE TO COMMENT LETTER E001 RECEIVED FROM DEANNA M. WIEMAN, DEPUTY DIRECTOR, CROSS MEDIA DIVISION, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, DATED MARCH 19, 1998

control drainage and erosion. As a result, the Proposed Action is not anticipated to result in significant sedimentation."

Water flows in the ephemeral washes in and around the Project mine and process area only for brief periods during and immediately following the infrequent heavier rainfall events ("Precipitation in the Colorado Desert tends to occur in short, intense events and average annual precipitation in the Project area is only approximately 3.6 inches (see Section 3.4.2.). The infrequent rain events result in temporary flow in the channels across the Project area which quickly infiltrates in the sandy and gravelly wash bottoms, providing some residual moisture to the wash vegetation between storm events." [Section 3.5.4.1. (page 3-44) of the Draft EIS/EIR]).

The Draft EIS/EIR explicitly discusses the disposition of the infrequent rainfall which may fall within the Project mine and process area in Section 4.1.3.1.2. (page 4-9) of the Draft EIS/EIR:

> "Precipitation falling on undisturbed portions of the Project mine and process area would be allowed to collect and flow through the area as before construction of the Project. Precipitation falling within the open pit boundaries would collect on, or infiltrate through, pit floors, thus reducing potential storm water runoff from the Project compared to the existing desert floor. Precipitation falling on the heap leach pad or within the pregnant or barren ponds would also remain within this closed hydrologic system. Depending on the porosity and permeability of the mine facility and the intensity of the precipitation, storm water runoff may be delayed (such as from rain falling on the porous waste rock stockpiles) or accelerated (such as from the relatively impervious roads). Regardless of the effect, because the Project mine and process area facilities which may accelerate, delay, or "capture" precipitation are such a minor percentage of the overall surface area of the drainage basins in which they are located, only a very minor delay, acceleration, or reduction in storm water flow in the major washes downstream of the Project mine and process area would result from the Project activities. Minor, ephemeral tributaries which are truncated by certain Project facilities (such as the heap leach pad) would have a reduction on runoff flow, although this flow reduction is not considered substantial and therefore would not be significant."

To quantitatively assess these effects of the Project, the areas of the watersheds of these washes were calculated and compared to the disturbed areas of the Project mine and process area within each of the watersheds. As stated in Section 3.3.1.1. (page 3-11) of the Draft EIS/EIR, "four (4) primary washes flow into the Project mine and process area (herein named the West Pit West, West Pit East, East Pit West, and East Pit East). Two (2) of these washes (West Pit East and East Pit West) flow

RESPONSE TO COMMENT LETTER E001 RECEIVED FROM DEANNA M. WIEMAN, DEPUTY DIRECTOR, CROSS MEDIA DIVISION, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, DATED MARCH 19, 1998

together within the Project mine and process area, such that only three (3) major washes (West Pit West, Central, and East Pit East) exit the Project mine and process area (see Figure 3.6). Central Wash and East Pit East Wash flow into Indian Wash approximately two (2) miles downstream of the Project mine and process area, and West Pit West and Indian Wash each eventually end in individual areas of infiltration on the eastern edge of the Algodones Sand Dunes (see Figure 3.5)."

Figure 3.7 in the Draft EIS/EIR shows the boundaries of the watersheds for the washes in the vicinity of the Project mine and process area, and new Figure 3.8 added to the Final EIS/EIR shows the watershed boundaries for the West Pit West Wash and Indian Wash, both for those portions above Ogilby Road and for the entire watersheds. New Table 3.3 added to the Final EIS/EIR summarizes the results of this analysis of disturbance within each of the watersheds, again both for those portions of the watersheds above Ogilby Road and for the entire watersheds. As shown in Table 3.3, less than 3.4 percent of the West Pit West Wash watershed, and less than five percent of the Indian Wash watershed, above Ogilby Road would be disturbed by the Project. As also shown in Table 3.3, less than 1.9 percent of the entire West Pit West Wash watershed, and less than 3.6 percent of the entire Indian Wash watershed, would be disturbed by the Project.

Assuming that all Project disturbance results in a complete loss of all stormwater runoff from the disturbed acres during the period prior to Project reclamation (which is conservative since, as stated above, areas disturbed by haul roads or offices would increase runoff, and other areas, such as those disturbed by diversion channels, would be runoff neutral), then the West Pit West Wash and Indian Wash watersheds would see a decrease in stormwater runoff equal to the percentage of Project disturbance within the applicable portions of the watersheds.

These small values quantitatively support the statement made in Section 4.1.3.1.2. (page 4-9) of the Draft EIS/EIR that "the Project mine and process area facilities which may accelerate, delay, or "capture" precipitation are such a minor percentage of the overall surface area of the drainage basins in which they are located, (that) only a very minor . . . reduction in storm water flow in the major washes downstream of the Project mine and process area would result from the Project activities."

Although less than 1.9 percent of the entire Indian Wash watershed would be disturbed by the Project, the Project would disturb approximately 17.4 percent of the 4.66 square mile Central Wash watershed and 21.8 percent of the 3.66 square mile East Pit East Wash watershed (which includes the tributary immediately to the east). Both of these watersheds are a part of the Indian Wash watershed and terminate into Indian Wash approximately two (2) miles downstream of the Project mine and process area. Section 4.1.3.1.2. (page 4-9) of the Draft EIS/EIR acknowledges that surface

RESPONSE TO COMMENT LETTER E001 RECEIVED FROM DEANNA M. WIEMAN, DEPUTY DIRECTOR, CROSS MEDIA DIVISION, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, DATED MARCH 19, 1998

disturbance would result in the reduction in stormwater runoff; states that the hydrologic effects of this loss of stormwater runoff is proportionately greater in the immediate vicinity of the Project (". . . ephemeral tributaries which are truncated by certain Project facilities [such as the heap leach pad] would have a reduction on runoff flow . . . ."); but also states that the hydrologic effects of this flow reduction are not considered substantial nor significant. However, Section 3.3.1.1. and Section 4.1.3.1.2. of the Final EIS/EIR will be revised to include the quantitative analysis and clarify these statements.

RESPONSE TO COMMENT LETTER E001 RECEIVED FROM DEANNA M. WIEMAN, DEPUTY DIRECTOR, CROSS MEDIA DIVISION, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, DATED MARCH 19, 1998

Figure 3.7: Watershed Boundaries for the Washes in the Vicinity of the Project Mine and Process Area

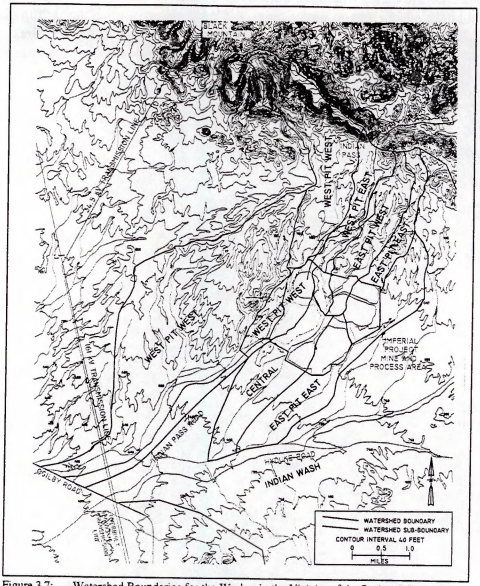


Figure 3.7: Watershed Boundaries for the Washes in the Vicinity of the Project Mine and Process Area

RESPONSE TO COMMENT LETTER E001 RECEIVED FROM DEANNA M. WIEMAN, DEPUTY DIRECTOR, CROSS MEDIA DIVISION, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, DATED MARCH 19, 1998

Figure 3.8: Watershed Boundaries for the West Pit West Wash and Indian Wash

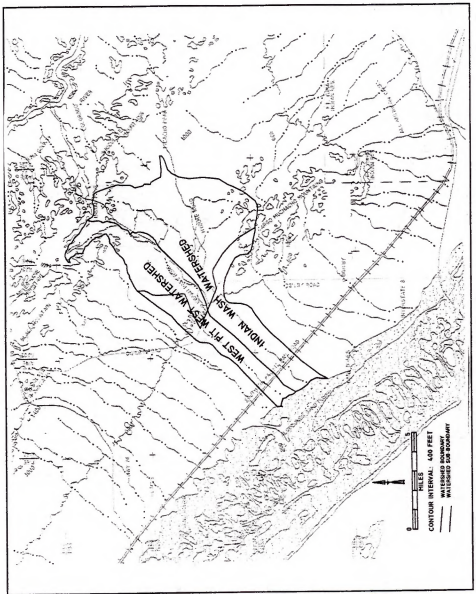


Figure 3.8: Watershed Boundaries for the West Pit West Wash and Indian Wash

Table 3.3: Watershed Areas Upstream Of, Within, and Downstream of, and Areas Disturbed by Project Surface Disturbance Within, the Project Mine and Process Area

	West Pit West Wash	Indian Wash								
		Central Wash				East Pit East Wash and Tributary				
		West Pit East Wash	East Pit West Wash	(Downstream of Confluence)	(Total)	East Pit East Wash	Tributary Just East of East Pit East Wash	(Total)	(Remainder)	(Total)
Area of Watershed Upstream of Project Mine and Process Area (sq. mi.)	**3.00**	0.974	1.30	N/A	**2.27**	0.684	N/A	**0.68**	N/A	**2.96**
Area of Watershed Within Project Mine and Process Area (sq. mi.)	**0.50**	0.21	0.22	0.56	**0.99**	0.51	0.47	**0.98**	N/A	**1.97**
Area of Watershed Downstream of Project Mine and Process Area to First Major Tributary (sq. mi.)	**0.42**	N/A	N/A	1.40	**1.40**	N/A	N/A	**0.00**	N/A	**1.40**
Remaining Area of Watershed Downstream of Project Mine and Process Area to Ogilby Road (sq. mi.)	**8.61**	N/A	N/A	N/A	**0.00**	N/A	2.00	**2.00**	24.01	**26.01**
Total Area of Watershed Upstream of Ogilby Road (sq. mi.)	**12.53**	1.18	1.52	1.96	**4.66**	1.19	2.47	**3.66**	24.01	**32.34**
Area of Watershed Within Project Mine and Process Area Disturbed by Project (sq. mi.)	**0.42**	0.17	0.18	0.46	**0.81**	0.36	0.44	**0.80**	0.00	**1.61**
Percent of Watershed Upstream of Ogilby Road Disturbed by Project (%)	**3.35%**	N/A	N/A	N/A	**17.39%**	N/A	N/A	**21.76%**	0.00%	**4.97%**
Area of Watershed Downstream of Ogilby Road (sq. mi.)	**9.74**	N/A	N/A	N/A	0.00	N/A	N/A	0.00	N/A	**12.72**
Total Area of Watershed (sq. mi.)	**22.27**	N/A	N/A	N/A	4.66	N/A	N/A	3.66	N/A	**45.06**
Percent of Total Area of Watershed Disturbed by Project (%)	**1.89%**	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.00%	**3.57%**

N/A = Not Applicable

RESPONSE TO COMMENT LETTER E001 RECEIVED FROM DEANNA M. WIEMAN, DEPUTY DIRECTOR, CROSS MEDIA DIVISION, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, DATED MARCH 19, 1998

Similar conclusions were reached during an independent evaluation of the hydrogeomorphic functions of the "waters of the United States" in the region, including those within the boundaries of the Project mine and process area (LSA Associates, Inc. 1998; provided as Appendix P to the Final EIS/EIR). This evaluation included analysis of each of the following hydrogeomorphic functions of the "waters of the United States:" surface and subsurface water storage and exchange and sediment mobilization, transport, and deposition; energy dissipation; landscape hydrologic connections; element and compound cycling; maintain characteristic plant community; maintain distribution and abundance of vertebrates; maintenance of habitat interspersion and connectivity; and maintain distribution and abundance of invertebrates.

Because the diversion channels will maintain existing wash gradient and geometry, and erosion and sediment production from Project facilities will be controlled, increased sediment transport, bed and bank scour, channel head cutting, and entrenchment of the downgradient washes are not expected to be problems. In addition, Mitigation Measure 4.1.3.1-7 (page 4-17) requires that the Project Applicant acquire and comply with the necessary approvals from the U.S. Army Corps of Engineers for all jurisdictional "waters of the United States" under Section 404 of the Clean Water Act which may be dredged or filled through Project actions; and Mitigation Measure 4.1.5-11 requires the Project Applicant to conduct annual transect surveys of the principal ephemeral washes which flow into, through, and out of the Project mine and process area, including documentation of observations regarding sediment transport processes within the washes, and expressly allows the BLM to require the implementation of appropriate additional mitigation measures if the microphyll woodland habitat is adversely affected (See Mitigation Measure 4.1.5-11, page 4-67 of the Draft EIS/EIR). Thus, as stated in Section 4.1.3.1.4. (page 4-17) of the Draft EIS/EIR, "Implementation of the Proposed Action would result in unavoidable, although not significant, adverse effects to surface water flows within the Project mine and process area as a result of the permanent diversion of portions of the ephemeral stream channels within the Project mine and process area."

Revisions to the Final EIS/EIR: Section 3.3.1.1. (page 3-11 and following) of the Draft EIS/EIR of the Draft EIS/EIR is revised as follows, to incorporate the additional quantitative data regarding watershed areas and the accompanying figures (a revised Figure 3.7 and new Figure 3.8):

"Surface water drainages within the Project area consist of a series of ~~subparallel~~ more-or-less parallel ephemeral washes which are fed by precipitation from infrequent winter storms and summer thunderstorms. Four (4) primary washes flow into the Project mine and process area (herein named the West Pit West, West Pit East, East Pit West, and East Pit East). Two (2) of these washes (West Pit East and East Pit West) flow together within the

RESPONSE TO COMMENT LETTER E001 RECEIVED FROM DEANNA M. WIEMAN, DEPUTY DIRECTOR, CROSS MEDIA DIVISION, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, DATED MARCH 19, 1998

Project mine and process area, such that only three (3) major washes (West Pit West, Central, and East Pit East) exit the Project mine and process area (see ~~Figure~~ Figures 3.6 and 3.7). Central Wash and East Pit East Wash (after flowing into the tributary immediately to the east) flow into Indian Wash approximately two (2) miles downstream of the Project mine and process area, and West Pit West and Indian Wash each eventually end in individual areas of infiltration on the eastern edge of the Algodones Sand Dunes (see Figure ~~3.5~~ 3.8).

"The areas of the watersheds upstream of, within, and downstream of, the Project mine and process area were calculated for each of these washes (see Figure 3.7, Figure 3.8, and Table 3.3). The local catchment areas for these ~~four (4)~~ washes upstream of the Project mine and process area were determined (see Figure 3.7), (including the local catchment for the Singer Pit diversion, which is entirely within the watershed of the East Pit West Wash), and estimates of peak flow in each of the washes at the upstream boundary of the Project mine and process area calculated, through use of a simple computer model, for the 100-year, 6- and 24-hour, and the 500-year, 24-hour storm events (Hanson 1997a; Hanson 1997c). Table 3.2 presents these catchment areas and peak flow estimates for these storms for each of these ~~four (4)~~ washes.

Table 3.2: Local Catchment Areas and Estimated Peak Runoff In Washes Through the Project Mine and Process Area

Storm Event	Precipitation (inches)	Peak Runoff by Diversion (cubic feet per second)				
		West Pit West	West Pit East	Singer Pit	East Pit West	East Pit East
		Catchment Basin Area				
		3.00 miles^2	0.974 miles^2	0.27 miles^2	1.30 miles^2	0.684 miles^2
100-year/6-hr	N/A	2,121	888	N/A	1,025	518
100-year/24-hr	4.8	2,043	727	364	925	492
500-yr/24-hr	N/A	2,927	1,083	N/A	1,394	704

N/A = Not Applicable Source: Hanson 1997a; Hanson 1997b

RESPONSE TO COMMENT LETTER E001 RECEIVED FROM DEANNA M. WIEMAN, DEPUTY DIRECTOR, CROSS MEDIA DIVISION, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, DATED MARCH 19, 1998

Figure 3.7: Watershed Boundaries for the Washes in the Vicinity of the Project Mine and Process Area

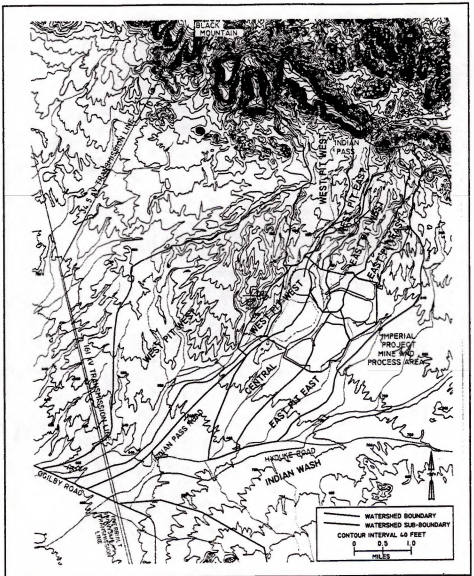


Figure 3.7: Watershed Boundaries for the Washes in the Vicinity of the Project Mine and Process Area

RESPONSE TO COMMENT LETTER E001 RECEIVED FROM DEANNA M. WIEMAN, DEPUTY DIRECTOR, CROSS MEDIA DIVISION, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, DATED MARCH 19, 1998

Figure 3.8: Watershed Boundaries for the West Pit West Wash and Indian Wash

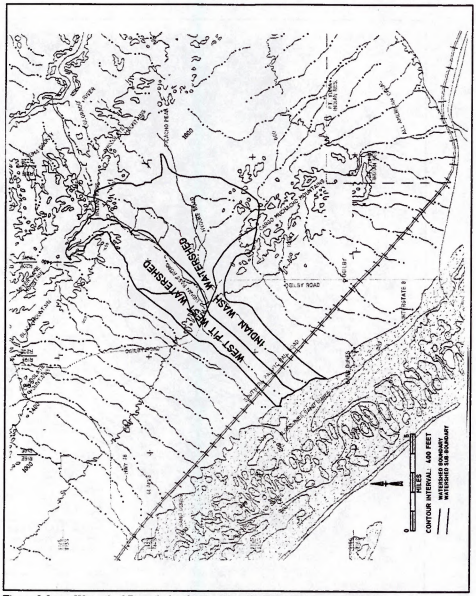


Figure 3.8: Watershed Boundaries for the West Pit West Wash and Indian Wash

Table 3.3: Watershed Areas Upstream Of, Within, and Downstream of the Project Mine and Process Area

	West Pit West Wash	Indian Wash								
		Central Wash				East Pit East Wash and Tributary				
		West Pit East Wash	East Pit West Wash	(Downstream of Confluence)	(Total)	East Pit East Wash	Tributary Just East of East Pit East Wash	(Total)	(Remainder)	(Total)
Area of Watershed Upstream of Project Mine and Process Area (sq. mi.)	**3.00**	0.974	1.30	N/A	**2.27**	0.684	N/A	**0.68**	N/A	**2.96**
Area of Watershed Within Project Mine and Process Area (sq. mi.)	**0.50**	0.21	0.22	0.56	**0.99**	0.51	0.47	**0.98**	N/A	**1.97**
Area of Watershed Downstream of Project Mine and Process Area to First Major Tributary (sq. mi.)	**0.42**	N/A	N/A	1.40	**1.40**	N/A	N/A	**0.00**	N/A	**1.40**
Remaining Area of Watershed Downstream of Project Mine and Process Area to Ogilby Road (sq. mi.)	**8.61**	N/A	N/A	N/A	**0.00**	N/A	2.00	**2.00**	24.01	**26.01**
Total Area of Watershed Upstream of Ogilby Road (sq. mi.)	**12.53**	1.18	1.52	1.96	**4.66**	1.19	2.47	**3.66**	24.01	**32.34**
Area of Watershed Downstream of Ogilby Road (sq. mi.)	**9.74**	N/A	N/A	N/A	0.00	N/A	N/A	0.00	N/A	**12.72**
Total Area of Watershed (sq. mi.)	**22.27**	N/A	N/A	N/A	4.66	N/A	N/A	3.66	N/A	**45.06**

N/A = Not Applicable

RESPONSE TO COMMENT LETTER E001 RECEIVED FROM DEANNA M. WIEMAN, DEPUTY DIRECTOR, CROSS MEDIA DIVISION, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, DATED MARCH 19, 1998

The last two sentences of the second paragraph on page 4-9 of Section 4.1.3.1.2. of the Draft EIS/EIR is revised as follows to clarify the effects of the diversion channels on flows in the washes downstream of the Project mine and process area:

"Thus, all flows would continue in the same channels outside of the Project mine and process area, and there would be no substantial alteration of stream flows or patterns outside of the Project mine and process area as a result of the ephemeral wash diversions. The impacts resulting from these ~~alterations~~ diversions are below the level of significance."

The third paragraph on page 4-9 of Section 4.1.3.1.2. of the Draft EIS/EIR is revised as follows to incorporate the additional quantitative data regarding watershed areas and disturbance within the watershed areas:

"Precipitation falling on undisturbed portions of the Project mine and process area would be allowed to collect and flow through the area as before construction of the Project. Precipitation falling within the open pit boundaries would collect on, or infiltrate through, pit floors, thus reducing potential storm water runoff from the Project compared to the existing desert floor. Precipitation falling on the heap leach pad or within the pregnant or barren ponds would also remain within this closed hydrologic system. Depending on the porosity and permeability of the specific area of surface disturbance created by the mine facility and the intensity of the precipitation, the timing of storm water runoff from the other areas of disturbance may remain as before (such as from the areas disturbed by the diversion channels), be delayed (such as from rain falling on the porous waste rock stockpiles) or accelerated (such as from the relatively impervious roads)."

RESPONSE TO COMMENT LETTER E001 RECEIVED FROM DEANNA M. WIEMAN, DEPUTY DIRECTOR, CROSS MEDIA DIVISION, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, DATED MARCH 19, 1998

Table 4.1a: Watershed Areas Disturbed by Project Surface Disturbance ~~Withing~~Within the Project Mine and Process Area

Area	West Pit West Wash	Indian Wash		
		Central Wash Portion	East Pit East Wash and Tributary Portion	Watershed (including Central Wash and East Pit East Wash and Tributary)
Total Area of Watershed Upstream of Ogilby Road (sq. mi.)	12.53	4.66	3.66	32.34
Area of Watershed Within Project Mine and Process Area Disturbed by Project (sq. mi.)	0.42	0.81	0.80	1.61
Percent of Watershed Upstream of Ogilby Road Disturbed by Project (%)	3.35%	17.39%	21.76%	4.97%
Area of Watershed Downstream of Ogilby Road (sq. mi.)	9.74	N/A	N/A	12.72
Total Area of Watershed (sq. mi.)	22.27	N/A	N/A	45.06
Percent of Total Area of Watershed Disturbed by Project (%)	1.89%	N/A	N/A	3.57%

N/A = Not Applicable

"Table 4.1a presents the amount of surface disturbance created by the Project within the Project mine and process area within each of the watersheds, both for those portions of the watersheds above Ogilby Road and for the entire watersheds. As shown in Table 4.1a, less than 3.4 percent of the 12.5 square mile West Pit West Wash watershed above Ogilby Road, and less than 1.9 percent of the entire approximately 22 square mile West Pit West Wash watershed, would be disturbed by the Project. As also shown in Table 4.1a, less than five percent of the 32 square mile Indian Wash watershed above Ogilby Road, and less than 1.9 percent of the entire 45 square mile West Pit West Wash watershed, would be disturbed by the Project."

"Assuming that all Project disturbance results in a complete loss of all stormwater runoff from the disturbed acres during the period prior to Project reclamation (which is conservative since areas disturbed by haul roads or offices would increase runoff, and other areas, such as those disturbed by diversion channels, would be runoff neutral), then the West Pit West

RESPONSE TO COMMENT LETTER E001 RECEIVED FROM DEANNA M. WIEMAN, DEPUTY DIRECTOR, CROSS MEDIA DIVISION, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, DATED MARCH 19, 1998

Wash and Indian Wash watersheds would see a decrease in stormwater runoff equal to the percentage of Project disturbance within the applicable portions of the watersheds. ~~Regardless of the effect, because~~ Because the Project mine and process area facilities which may accelerate, delay, or "capture" precipitation are such a minor percentage of the overall surface area of the West Pit West Wash and Indian Wash drainage basins in which they are located, only a very minor delay, acceleration, or reduction in storm water flow in these major washes downstream of the Project mine and process area would result from the Project activities. These insubstantial alterations to the storm water flow conditions, patterns, and rates in these drainages are below the level of significance for hydrologic effects."

"Table 4.1a shows that the Project would disturb approximately 17.4 percent of the 4.66 square mile Central Wash watershed and 21.8 percent of the 3.66 square mile East Pit East Wash watershed (which includes the tributary immediately to the east). Both of these watersheds are a part of the Indian Wash watershed and terminate into Indian Wash approximately two (2) miles downstream of the Project mine and process area. These percentages of surface disturbance within these smaller watersheds would be expected to result in generally proportionate decreases in the volume of surface run off, and thus flow in these ephemeral stream channel reaches during flow events (from the flow which would occur from the same storm precipitation falling on undisturbed lands). However, because of the small size of these watersheds, these flow rate reductions are not considered substantial hydrologic changes. Minor, ephemeral tributaries which are truncated by certain Project facilities (such as the heap leach pad) would also have a reduction on run off flow generally in proportion to the percentage of lost watershed, although this flow reduction is already accounted for in the amount of runoff reduction from these watersheds. Because of the very small size of these watersheds, these flow reductions are not considered substantial and therefore the hydrologic effects would not be significant."

The third paragraph on page 4-10 of Section 4.1.3.1.2. of the Draft EIS/EIR is revised as follows to incorporate additional information regarding possible changes in sediment production as a result of reductions in storm water runoff from surface disturbance within the watershed areas:

"Best management practices to reduce the potential for erosion have been incorporated into the Proposed Action (see Section 2.1.11.2.3. and Section 4.1.2.3.) which would also substantially reduce the potential for sedimentation in the ephemeral stream channels. These include placing rip rap on the outside bends of diverted stream channels, providing setbacks of facilities (such as the waste rock stockpiles) from the banks of throughgoing washes,

RESPONSE TO COMMENT LETTER E001 RECEIVED FROM DEANNA M. WIEMAN, DEPUTY DIRECTOR, CROSS MEDIA DIVISION, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, DATED MARCH 19, 1998

placing berms around facilities as appropriate, and installing sediment basins around the facility designed to capture run off from the 100-year, 24-hour storm event for the entire Project mine and process area. Reductions in flow in the washes as a result of surface disturbance within the watersheds would also result in a small reduction in stream flow velocity, which would in turn result in a small reduction in the sediment carrying capacity of these streams during flow events. However, because the reduction in run off from the disturbed areas such as the pits, heap, and waste rock stockpiles also reduces or eliminates the generation of sediment from these same lands, reductions in flow, flow velocity, and thus sediment carrying capacity should generally be balanced by the reduction in sediment production. In addition, ..."

The following paragraph would be added as the second full paragraph on page 4-14 (Section 4.1.3.1.2) of the Draft EIS/EIR:

"An assessment of the hydrogeomorphic functions of the "waters of the United States" in the watershed area that included the Project mine and process area was undertaken to evaluate the direct and indirect impacts of the Project on these functions (LSA Associates, Inc. 1998; provided as Appendix P to the Final EIS/EIR). The hydrogeomorphic functions evaluated included: surface and subsurface water storage and exchange and sediment mobilization, transport, and deposition; energy dissipation; landscape hydrologic connections; element and compound cycling; maintain characteristic plant community; maintain distribution and abundance of vertebrates; maintenance of habitat interspersion and connectivity; and maintain distribution and abundance of invertebrates.

The findings of this assessment with respect the "waters of the United States" are consistent with those described above and generally conclude that following Project implementation the effects of the Project would be minimal and that each of the respective hydrogeomorphic functions would be essentially equivalent to the existing condition."

Response to Comment E001:005: (The Following Response is Also Applicable to Comments E001:007, I006:003 and J008:002.) Based upon current interpretations of Section 404 of the Clean Water Act and the implementing regulations, guidelines, manuals, and memoranda of agreement summarized in Section 3.3.1.4. (pages 3-17 and 3-18) and Section 4.1.3.1.2. (pages 4-13 through 4-15) of the Draft EIS/EIR, these ephemeral washes are considered by the ACOE and the EPA as "waters of the United States." This is, however, only a regulatory determination, and any limits which may be imposed on the ACOE or EPA jurisdictional responsibilities would not alter or

RESPONSE TO COMMENT LETTER E001 RECEIVED FROM DEANNA M. WIEMAN, DEPUTY DIRECTOR, CROSS MEDIA DIVISION, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, DATED MARCH 19, 1998

otherwise affect the analysis of the potential environmental effects, or the assessment of the significance of the effects, of the Project on the ephemeral washes which are described in Section 3.4 (pages 3-38 through 3-81) and Section 4.1.4. (pages 4-45 through 4-78).

BLM and Imperial County believe that the discussions of the "waters of the United States" currently in the Draft EIS/EIR adequately assess the direct and indirect impacts of the Project to the "waters of the United States." The Draft EIS/EIR specifically discusses the nature and extent of, and anticipated effects to, "waters of the United States" in the Project mine and process area in Section 3.3.1.4. (pages 3-17 and 3-18) and Section 4.1.3.1.2. (pages 4-13 through 4-15) of the Draft EIS/EIR. In addition, the Draft EIS/EIR extensively discusses the basic hydrologic, biologic, and soil/sediment functions of, and assesses (both qualitatively and, to the extent appropriate or possible, quantitatively) the impacts of the Project on, these washes, in Section 3.3 (pages 3-10 through 3-32) and Section 4.1.3. (pages 4-8 through 4-26); Section 3.2. (pages 3-9 and 3-10) and Section 4.1.2. (pages 4-5 through 4-8); and Section 3.4 (pages 3-38 through 3-81) and Section 4.1.4. (pages 4-45 through 4-78), of the Draft EIS/EIR, respectively.

In addition, the guidance provided in the Memorandum of Agreement referenced by the EPA (Memorandum of Agreement Between the Environmental Protection Agency and the Department of the Army Concerning the Determination of Mitigation Under the Clean Water Act Section 404(b)(1) Guidelines, effective February 7, 1990) [1990 MOA] is clearly restricted to wetlands, and as clearly stated in Section 3.3.1.4. (page 3-17) of the Draft EIS/EIR, there are no wetlands in or near the Project area, and none will be affected by the Project. The 1990 MOA states in pertinent part that ". . . for wetlands, (the ACOE) will strive to achieve a goal of no overall net loss of values and functions. In focusing the goal of no overall net loss to wetlands only, EPA and Army have explicitly recognized the special significance of the nations's wetlands resources." Thus, BLM believes that the extensive discussions of the basic hydrologic, biologic, and soil/sediment functions of, and assessment of the impacts of the Project on, these washes, in the Draft EIS/EIR, are fully adequate to determine that there will be no significant impacts to these resources.

The suggested clarification will be made in the fourth paragraph of Section 3.3.1.4.

Revisions to the Final EIS/EIR: A new third sentence is added to the fourth paragraph on page 3-17 of Section 3.3.1.4., as follows: No permanent surface waters are present in the Project area, and storm runoff flows are rare and of brief duration.

RESPONSE TO COMMENT LETTER E001 RECEIVED FROM DEANNA M. WIEMAN, DEPUTY DIRECTOR, CROSS MEDIA DIVISION, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, DATED MARCH 19, 1998

Response to Comment E001:006: (See Also Response to Comment E001:004.) Figure 2.9 was designed to show the general plan view and layout of the diversions. Figure 2-10 provides a typical cross-section and dimensions of the West Pit West Diversion. Typical cross-sections and dimensions of the other diversion channels are provided in Attachment D to Appendix A of the Draft EIS/EIR. This same Attachment D to Appendix A of the Draft EIS/EIR also provides the diversion plan on a topographic base (Plate 1), and the transition plan and cross-section. However, a new figure, Figure 2.10, showing the diversion channels of Figure 2.9 on the aerial photograph of Figure 3.16 of the Draft EIS/EIR, will be added to Section 2.1.9.7., following page 2-30, and the appropriate modification made to reference this new figure.

Revisions to the Final EIS/EIR: A new figure, Figure 2.10, labeling and showing the diversion channels of Figure 2.9 on the aerial photograph of Figure 3.16 of the Draft EIS/EIR, has been added to Section 2.1.9.7., following page 2-30, and the following modification made to the text in the last sentence of the first paragraph of Section 2.1.9.7. on page 2-28 of the Draft EIS/EIR to reference this new figure: "Each of the diversion channels has been designed to safely convey all runoff flows from the 100-year, 6- and 24-hour precipitation events, and to direct water back into the same major drainage system from which it was diverted (see Figure 2.9 and Figure 2.10)."

Response to Comment E001:007: (See Also Responses to Comments E001:004, E001:005 and I008:013.) The quoted section of the Draft EIS/EIR of concern to the EPA ("Diversions of the major surface drainages through constructed channels around the Project facilities would continue to provide the same flow and quality of water into these major wash systems downgradient of the Project mine and process area as exists prior to mine construction"), located on page 4-52 of the Draft EIS/EIR, is part of Section 4.1.5.3.1. (Impacts on Wildlife Habitat). We agree that this particular sentence, taken out of context with the rest of the analysis of the effects of the Project on hydrology and sediment/chemical transport, is potentially misleading. This statement will be clarified in the Final EIS/EIR to indicate that, as stated above and in Section 4.1.3.1.2. (page 4-9) of the Draft EIS/EIR, that "there would be no substantial alteration of stream flows or patterns outside of the Project mine and process area" as a result of the diversions. Further, the discussion in this same paragraph of flow reduction as a result of tributary truncation will also be revised to reflect the revisions in the Final EIS/EIR to Section 3.3.1.1. and Section 4.1.3.1.2.

Revisions to the Final EIS/EIR: None.

RESPONSE TO COMMENT LETTER E001 RECEIVED FROM DEANNA M. WIEMAN, DEPUTY DIRECTOR, CROSS MEDIA DIVISION, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, DATED MARCH 19, 1998

Figure 2.10: Diversions of Washes Within the Project Mine and Process Area (Aerial Photograph)


Upper Ranch Diversion Channel
Upper Rattlesnake Diversion Channel
Upper Rattlesnake Diversion Channel
Upper Rattlesnake

RESPONSE TO COMMENT LETTER E001 RECEIVED FROM DEANNA M. WIEMAN, DEPUTY DIRECTOR, CROSS MEDIA DIVISION, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, DATED MARCH 19, 1998

Response to Comment E001:008: (The Following Response is Also Applicable to Comment I019:005.) As stated in Section 5.1. of the Draft EIS/EIR, the geographical area considered for the analysis of cumulative effects "may vary in size and shape to reflect each environmental resource which is evaluated." As described in Section 5.1., for the cumulative assessment of the Project "the potentially affected resources are located in a study area generally bounded by the Colorado River to the east; the Chocolate Mountains to the northwest; the Algodones Sand Dunes/East Mesa to the west; and the Mexican border to the south." The calculation of the estimated amount of microphyll woodland within the cumulative impact assessment area considered a conservatively smaller physiographic area [as described in Section 5.3.3. (pages 5-13 and 5-14) of the Draft EIS/EIR], an approximately 300-square mile area generally bounded on the east-northeast by the west-southwest facing slopes of the Chocolate Mountains. This area included the hydrologic plain that extends west-southwest to the Algodones Dunes and the area from the Citrus Heights Ranches in the south to the Mesquite mine and landfill areas in the north. This area is shown on the attached copy of a new figure, Figure 5.3.

The Draft EIS/EIR (page 5-14) clearly explains how the total estimate of 7,680-15,360 acres of microphyll woodland habitat in this cumulative impact assessment area was derived. All of the habitat labeled in Figure 3.15 as "microphyll woodland," and stated on page 5-14 of the Draft EIS/EIR as approximately five percent of the Project mine and process area mapped in Figure 3.15, has explicitly been mapped as microphyll woodland habitat. Aerial photographs and limited ground-truthing indicate that essentially all of the wash habitat in the cumulative impact assessment area (see Figure 5.3), estimated at four to eight percent on page 5-14 of the Draft EIS/EIR, is similar to the wash habitat and microphyll woodland that braids through the Project area as shown on Figure 3.15. In addition, Section 5.3.3. of the Draft EIS/EIR states that the NECDMP (now known as the NECO Plan) indicates that this same cumulative impact assessment area contains approximately 40 to 50 percent "desert dry wash woodland." There is no evidentiary basis for the comment's assertion that all of the estimated 7,680-15,360 acres of wash habitat in the cumulative impact assessment area is not microphyll woodland habitat.

Revisions to the Final EIS/EIR: A new figure, Figure 5.3, has been added to Section 5.3.3., following page 5-13, and the following modification made to the text in the last sentence of the third full paragraph of page 5-13 (Section 5.3.3.) of the Draft EIS/EIR to reference this new figure: "However, these individual projects in the cumulative impact analysis are dispersed over a regional area at least 20 miles long by 15 miles wide (approximately 300 square miles, or nearly 200,000 acres) in which large vacant tracts of land, with similar vegetation and wildlife habitat, remain (see Figure 5.3)."

RESPONSE TO COMMENT LETTER E001 RECEIVED FROM DEANNA M. WIEMAN, DEPUTY DIRECTOR, CROSS MEDIA DIVISION, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, DATED MARCH 19, 1998

Figure 5.3: Area of Cumulative Biological Impact Assessment

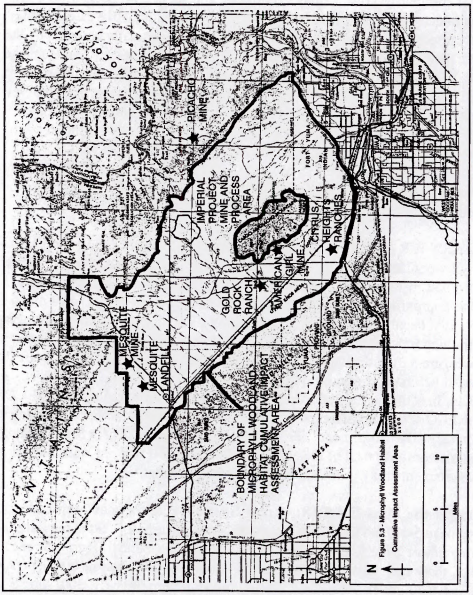


Figure 5.3: Area of Cumulative Biological Impact Assessment

RESPONSE TO COMMENT LETTER E001 RECEIVED FROM DEANNA M. WIEMAN, DEPUTY DIRECTOR, CROSS MEDIA DIVISION, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, DATED MARCH 19, 1998

Response to Comment E001:009: (The Following Response is Also Applicable to Comments E002:006, I002:005, I013:101, I013:102, I013:103, I013:104, I013:105, I013:266, I013:267, I013:268, I013:269, I013:270, I013:271, I013:272, I013:274, I013:275, I015:004, I024:003, J003:004, J003:005, J003:006.) (See Also Responses to Comments I013:276 and I015:004.) The Project heap leach pad would be lined with a PVC dual liner system, as stated in Section 2.1.8.1. (pages 2-15 and 2-16) of the Draft EIS/EIR:

> "The first portion of the leach pad . . . would be constructed with a liner consisting of a composite of 40-mil polyvinyl chloride (PVC) primary and 20-mil PVC secondary geomembrane liners placed directly on a minimum of four (4) inches of compacted, fine-grained, bedding material (see Figure 2.6). Similar liners were approved by the CRWQCB and constructed by others at the nearby American Girl mine in 1995. Third-party construction quality assurance/quality control (QA/QC) would be provided to ensure that lining and bedding materials and containment facilities were constructed in accordance with design specifications approved by the CRWQCB."

The process ponds would be lined with a PVC/polypropylene dual liner system, as stated in Section 2.1.8.2. (page 2-18) of the Draft EIS/EIR: "All pond liner systems are currently proposed to consist of an inner 40-mil thick PVC liner and an outer 45-mil thick polypropylene liner, separated by geonet on the pond sides and a geotextile layer on the pond bottom." As also stated in Section 4.1.3.2.2. (page 4-22) of the Draft EIS/EIR:

> "The heap leach pad has been designed with a dual liner system to decrease the potential for any leakage of leach solution. The first portion of the leach pad would be constructed with a liner consisting of a composite of 40-mil polyvinyl chloride (PVC) primary and 20-mil PVC secondary geomembrane liners placed directly on a minimum of four (4) inches of compacted, fine-grained, bedding material. Similar liners were approved by the CRWQCB and constructed by others at the nearby American Girl mine in 1995. The EPA is reported to have recognized the acceptability (for seamabilty, punctureability and installability) of 20-mil PVC liners for landfills (Peggs 1992), and the United States Bureau of Reclamation (USBR), which has installed over 40 million square feet of PVC in canal linings since 1968, has specified 20-mil thicknesses since the early 1980's (Comer, et al. 1996). The pad is also designed to drain by gravity into the solution collection system and solution ponds so that there is only a minimum layer of saturated drain rock (typically less than one (1) foot) above the liner, thus reducing the hydraulic head across the liner."

RESPONSE TO COMMENT LETTER E001 RECEIVED FROM DEANNA M. WIEMAN, DEPUTY DIRECTOR, CROSS MEDIA DIVISION, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, DATED MARCH 19, 1998

Further, each "phase" of the heap leach pad would be subdivided into separately draining "cells," averaging about 15 acres, each isolated from its neighbor cells and independently drained by its own solution collection system (Personal Communication, Tim Haldane, Glamis Imperial Corporation, October 26, 1998). These cells would be created by the construction of low "diverting" berms on the liner bedding layer, over which the heap liner would be installed. Once leach solution reaches the lowest point in any given cell it is piped directly through the solution collection system to the solution ponds. This division of the pad into separate cells by this manner allows each cell to be operated and monitored separately from the other cells within the heap without potentially compromising the integrity of the heap liner. This information will be added to the EIS/EIR.

Polyvinyl chloride (PVC) has been used more frequently in recent years for heap liners, especially in the low desert where cold temperatures are not of issue. In the immediate vicinity of the Imperial Project, PVC has been used on the seven heap leach pads constructed at the Mesquite Mine, where the liners consist of a 40-mil PVC sheet laid over 12 inches of compacted clay (Personal Communication, Tom Ferrell, Mesquite Mine, September 1 1998). PVC was also used to line the most recent heap leach pad constructed in 1995 for the Oro Cruz Operation of the American Girl Mine, which consists of a 40-mil PVC upper liner over a 20-mil PVC lower liner separated by a geotextile (Personal Communication, Dennis Laybourn, American Girl, September 1, 1998). PVC was also used for the heap leach liner for the first two pads constructed for the Picacho Mine, although high-density polyethylene (HDPE) was used as the heap liner for the last three of the Picacho Mine heap leach pads (Personal Communication, Steve Baumann, Chemgold, Inc., September 1, 1998). HDPE was also used as the heap liner for the original American Girl Mine heap pad (Personal Communication, Dennis Laybourn, American Girl, September 1, 1998).

As stated in Section 2.1.8. (page 2-15) of the Draft EIS/EIR, "The heap leach pad liner would be designed to serve as an engineered alternative to the prescriptive standard for a Group B mining waste, waste pile, as contained in Title 27, Division 2, Subdivision 1, Article 7 of the CCR (formerly Title 23, Division 3, Chapter 15, Article 7), and may be approved, or modified, by the CRWQCB in the WDRs for the Project."

The decision regarding which liner to use involves engineering and economic analyses which must be based on site-specific conditions. According to Peggs (1992) "It is desirable to design geomembrane lining systems using the most cost-effective material that will best achieve the performance specifications." For the Project, the "performance specifications" for the heap leach pad liner design would include providing an impermeable barrier that would exist beneath a heap of broken rock up to 300 feet in height which may have a constant hydraulic head of approximately one

RESPONSE TO COMMENT LETTER E001 RECEIVED FROM DEANNA M. WIEMAN, DEPUTY DIRECTOR, CROSS MEDIA DIVISION, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, DATED MARCH 19, 1998

foot. Since the heap leach pad perimeter ditch liner would be buried, ultraviolet solar radiation resistance is not of primary concern. The leach pad liner must also withstand periodic shock loadings from nearby blasting activity and potential seismic activity; the more critical of the shock loads would be seismic-induced horizontal accelerations, which could reach 0.2 g (see Table 4.1 of the Draft EIS/EIR). Solutions to which the liner will be exposed will be a weak aqueous solution of water and cyanide (substantially less than 0.1 percent cyanide). The native soils on which the liner would be placed are derived from weathered, metamorphosed granites (gneiss), and as such would be expected to be pH-neutral to slightly acidic.

The solution ponds will also be lined with synthetic liner, but the service environment for this component is somewhat different than the heap leach pad liner. The solution ponds would be filled with a weak aqueous cyanide solution (substantially less than 0.1 percent cyanide) to a depth of approximately 20 feet, and the liner would be exposed to sunlight. Therefore, both impermeability and ultraviolet solar radiation resistance are of primary concern. The liner material for both applications must be safe and relatively easy to work with, including general handling, walking upon, seaming and patching.

Given the above-described service environment, either PVC or HDPE, as well as numerous other types of synthetic geomembranes, would perform satisfactorily, although PVC provides a number of practical advantages over HDPE. PVC is considerably easier to work with than HDPE when seaming and patching in the field. The 40-mil and 20-mil PVC sheets proposed for the Project heap liner are more flexible than comparable thicknesses of HDPE. This makes PVC easier to bend and flex to conform to subgrade surfaces, as well as easier to work with while handling during field seaming and patching. And, because PVC can be folded (HDPE cannot be folded because of its crystalline structure), PVC can be manufactured with factory-produced seams into very large sheets, up to 50,000 square feet (GeoCHEM, Inc. 1993. *PVC Geomembrane Facts* November 1993). It is then transported as a folded product to the project site. This translates into the requirement for fewer field seams, which are the most likely to leak because of the variabilities of field conditions. PVC offers a higher friction angle, translating into a surface that is less likely to slip under the heap mass. PVC has also been demonstrated to elongate farther than HDPE before failure, resulting in a higher resistance to puncture as a result of subgrade irregularities (EPA 1988. *Lining of Waste Containment and Other Impoundment Facilities*. EPA Risk Reduction Engineering Laboratory. EPA/600/2-88/052, September 1988; Laine, D.L., M.P. Miklas and D.H. Parr. 1989. *Loading Point Punctureability Analysis of Geosynthetic Liner Materials*. Southwest Research Institute, USA. Paper presented at the Geosynthetics '89 Conference, San Diego, California). Also, being an amorphous polymeric product, PVC is very "rubbery" and flexible and does not tend to break at minor surface

RESPONSE TO COMMENT LETTER E001 RECEIVED FROM DEANNA M. WIEMAN, DEPUTY DIRECTOR, CROSS MEDIA DIVISION, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, DATED MARCH 19, 1998

irregularities under extreme bending conditions as does HDPE. This type of failure is called environmental stress cracking.

As stated in Section 2.1.8.1. (page 2-15) of the Draft EIS/EIR, "The leach pad liner and associated facilities would be constructed in three (3) to four (4) phases as space is required for new ore . . . . The first portion of the leach pad, consisting of approximately 4.4 million square feet [would be] . . . designed to accommodate approximately 30 million tons of ore . . ." The later phases of the heap would progressively add to the area of the pad, at ground level, increasing the areal extent of the pad from the 4.4 million square feet (approximately 101 acres) up to the final projected area of substantially less than the 334 acres listed in Table 2.1 (which includes the area of all of the berms, roads and water handling facilities associated with the heap leach pad) through the construction of additional liner within the pad perimeter. The phases would not be constructed by adding a new liner atop heaped ore. The construction of the heap liner in phases does not create any substantially different potential for adverse environmental effects than constructing in one phase.

A vadose (unsaturated ground water) zone monitoring system would be installed to detect potential leaks in the Project heap leach pad lining system, as stated in Section 2.1.8.3. (page 2-18) of the Draft EIS/EIR:

> "This vadose zone monitoring system is currently designed to consist of perforated liquid collection pipes in a gravel bed installed beneath the liner system and above a 20-mil PVC sheet (see Figure 2.6). This vadose zone monitoring system would underlay approximately 25 percent of the leach pad liner, and be located directly under the main process solution collection pipes, the lowest points of the heap leach pad liner."

The process ponds would contain an system underlying the entire area of the primary liner designed also to detect and collect leaks, as stated in Section 2.1.8.2. (page 2-18) of the Draft EIS/EIR:

> "The geonet/geotextile is part of the leachate collection and recovery system (LCRS), which also includes a sump, consisting of select drain fill placed at the lowest corner of each pond between the geomembrane liners. A leak detection well, consisting of 8-inch diameter, Schedule 80 PVC pipe, would be placed in the sump and 'daylighted' at the top of the pond for monitoring any fluid which reached the sump. The well pipe would be screened in the sump material."

RESPONSE TO COMMENT LETTER E001 RECEIVED FROM DEANNA M. WIEMAN, DEPUTY DIRECTOR, CROSS MEDIA DIVISION, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, DATED MARCH 19, 1998

It is incorrect to state that it is standard procedure for leak detection systems to underlie the entire area of a mine's heap leach pad and the process ponds. For example, the Castle Mountain Mine uses a vadose zone monitoring system very similar to that proposed for the Imperial Project, except that it underlies only approximately 10 percent of the Castle Mountain Mine heap leach pad (Personal Communication, Lynn Holden, Castle Mountain Mine, September 1, 1998). The Mesquite Mine heap leach pads use a series of angled holes drilled under the pads which, when placed under vacuum, draw in soil gases which, if the heap leach pad liner were leaking, would include weak hydrogen cyanide gas (Personal Communication, Tom Ferrell, Mesquite Mine, September 1 1998). This system also does not provide 100 percent coverage of the area of the heap leach pad. The vadose zone monitoring system for the Oro Cruz Operation of the American Girl Mine also consists of soil gas system (Personal Communication, Dennis Laybourn, American Girl, September 1, 1998). While each of these vadose zone monitoring systems do not provide 100 percent coverage under the heap leach pad, they are designed to provide monitoring coverage of the heap leach pad in those areas where either leaks may be considered most likely or where a leak may be most problematic.

Since, as stated in Section 4.1.3.2.2. (page 4-22) of the Draft EIS/EIR, "The pad is . . . designed to drain by gravity into the solution collection system and solution ponds so that there is only a minimum layer of saturated drain rock (typically less than one (1) foot) above the liner," there is little hydraulic head, or force, to drive water through any leaks in the liner. Therefore, although it is technically possible that a leak could occur anywhere under the lined pad, the most likely locations for leaks, and the locations where the most solution could escape if there was a leak, are in the lowest spots in the liner. Therefore, the Imperial Project vadose zone leak detection system is located to provide 100 percent coverage under the lowest points of the heap leach pad liner, coincident with all of the main process solution collection pipes in each cell. Each cell has a separate vadose zone monitoring system, each with a dual set of monitoring points, which allows for the quick identification of the specific cell which may have a leaking liner. The fact that the heap leach liner leak was detected at the Castle Mountain Mine, where the vadose zone monitoring system coverage is only 10 percent of the heap leach pad area, and that the specific cell was identified (and leaching ceased for that cell) argues not that leaks are hard to detect, but that the leak detection system was well designed and does work.

Heap leach pad liner leak "contingency" plans are discussed in Section 4.1.3.2.2. (pages 4-22 and 4-23) of the Draft EIS/EIR:

> "Monitoring of both the vadose zone and ground water for evidence of leakage of leach solution would be conducted under the Proposed Action. The vadose zone monitoring system

RESPONSE TO COMMENT LETTER E001 RECEIVED FROM DEANNA M. WIEMAN, DEPUTY DIRECTOR, CROSS MEDIA DIVISION, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, DATED MARCH 19, 1998

would be placed under only approximately 25 percent of the leach pad liner and process ponds, but would be located directly under the lowest points of each cell of the heap leach pad and the process ponds. Because of its placement, this vadose monitoring system should be capable of detecting any substantial leak through the double liner system of the heap leach pad and process ponds. The CRWQCB would typically require monthly sampling of both the vadose zone and ground water monitoring points and analysis for the constituents of concern (those constituents of the process solution, such as cyanide and select metals, which if detected in the vadose zone or ground water monitoring points would likely indicate a leak). Results would be required to be reported monthly, more rapidly if evidence of a leak is detected. Detected leaks under the pad would be evaluated and corrected under the supervision of the CRWQCB, either through excavation of the heaped material and repair of the liner, if the height of the heap at the time of detection of the leak is not too great, or through reducing or eliminating the application of leach solution to that portion of the heap located over the leak. Leaks under the process ponds would be repaired after emptying the appropriate pond. Leaks are not common place and are usually detected while still small. Remediation of leaked solution is typically not required because the weak cyanide solution degrades rapidly as the pH drops and it is oxidized in the air, and the soil and rock material above the ground water can attenuate the concentrations of the metals."

Each cell can be "isolated" from the other cells, such that these corrective actions can be taken on a cell-by-cell basis. The application of leach solution can be terminated (either temporarily or permanently) above any individual cell, which removes the source of the process solution leaking through the liner. Rainfall may still percolate through the heap and reach the liner, although based on the rock analyses conducted and discussed in Section 2.1.4. (pages 2-12 and 2-13) and Section 4.1.3.2.2. (pages 4-22 through 4-25) of the Draft EIS/EIR, this water would have little potential for degrading ground water quality. The decision to permanently terminate the application of process solution, excavate and repair the liner, or take other actions to achieve a long-term solution to a detected leak, would be proposed by the Applicant and approved by the CRWQCB and the BLM.

Until and unless some or all of the mining claims on which the Imperial Project would be built are patented, the United States government would retain title to the land within the Project mine and process area, and as the land owner could ultimately be determined to be the entity responsible for the costs of an environmental cleanup should such be determined necessary. However, to ensure that the operator fulfills its obligations, bonds are required by both the BLM and the CRWQCB. Response to Comment I002:010 indicates that the current estimated costs of physical reclamation

RESPONSE TO COMMENT LETTER E001 RECEIVED FROM DEANNA M. WIEMAN, DEPUTY DIRECTOR, CROSS MEDIA DIVISION, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, DATED MARCH 19, 1998

are approximately $0.964 million; $2.039 million is the estimated cost of detoxification of the heap and process area; and $0.2 million is to be held to cover the cost of any corrective action for areas affected by processing activities. Thus, the current estimate for bonding for the Project is a total of more than $3 million, and additional discussions between the Glamis Imperial and the BLM, Imperial County, and the CRWQCB will be necessary to determine the final bond amounts which are consistent with the requirements and limitations of the applicable laws and regulations. The potential for federal government financial responsibility in no way alters the environmental effects of the Project.

Revisions to Final EIS/EIR: The following new paragraph has been added to the text of the Draft EIS/EIR at the top of page 2-18:

> Each "phase" of the heap leach pad would be subdivided into separately draining "cells," averaging about 15 acres, each isolated from its neighbor cells and independently drained by its own solution collection system. These cells would be created by the construction of low "diverting" berms on the liner bedding layer, over which the heap liner would be installed. Once leach solution reaches the lowest point in any given cell it is piped directly through the solution collection system to the solution ponds. This division of the pad into separate cells by this manner allows each cell to be operated and monitored separately from the other cells within the heap without potentially compromising the integrity of the heap liner.

Response to Comment E001:010: (The following response is also applicable to Comment J003:005.) The leach pad is engineered and designed for internal drainage of all solutions (and rainfall which infiltrates into the heap) directly to the process ponds through an internal gravity pipe system. Therefore, the perimeter containment berm does not act as a dam, but acts instead to contain and direct downslope to the process ponds any solution or rainfall runoff from the heap which does not infiltrate into the heap.

As stated in Section 2.1.8.1. (page 2-15) of the Draft EIS/EIR, "As part of the leach pad construction, the site to be constructed would be graded to ensure solution drainage from the leach pad to the solution ponds." Section 2.1.8.2. (page 2-18) of the Draft EIS/EIR states that "Leach solution and rain which falls on the heap would drain by gravity through the heap to the liner, then drain directly to the process ponds." As stated in Section 2.1.8.1. (page 2-16) of the Draft EIS/EIR, "The leach pad system would be designed such that pregnant solution would drain internally to the central pipe network and into the pregnant solution pond. No exposed solution ditches would be present." Further, the ". . . engineered drain pipe network to collect the leach solution and convey it to the

RESPONSE TO COMMENT LETTER E001 RECEIVED FROM DEANNA M. WIEMAN, DEPUTY DIRECTOR, CROSS MEDIA DIVISION, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, DATED MARCH 19, 1998

process ponds would be placed on top of the liner system[, and] . . . a 12-inch layer of minus 3-inch screened/crushed, free-draining gravel would be placed on top of the liner system to protect the liner, facilitate the collection and removal of leach solution, and minimize the hydraulic head on the synthetic liner (see Figure 2.6)."

Leach pad construction is discussed further in Response to Comment E001:009.

As stated in Section 2.1.8.1. (page 2-15) of the Draft EIS/EIR, "A service road and containment berm would be constructed around the perimeter of the pad to assure that process solution and rain which falls onto the heap drains to the pregnant solution pond." Section 2.1.8.1. (page 2-16) of the Draft EIS/EIR continues that the "containment berm, with a minimum height of six (6) feet, would be constructed around the perimeter of the ore heap. The ore heap would be typically set back eighteen (18) feet from the inside crest of the berm."

Section 4.1.1.2. (pages 4-1 and 4-2) of the Draft EIS/EIR briefly discuss the seismic and slope stability analyses which were conducted on the ore heap and heap leach facility, which found that "the proposed slope of the heap and waste rock stockpiles would be stable and unlikely to produce substantial failures, including landslides, either under normal operating conditions or from ground shaking during regional seismic events." However, since the perimeter containment berm does not act as a dam, it is not subject to any regulatory design or analysis requirement for seismic or static loading, and no such design or analysis was conducted.

As stated in Section 4.1.1.2. (page 4-1) of the Draft EIS/EIR, "Stability analyses completed for the planned heaps and waste rock stockpiles (WESTEC, Inc. 1996b) also indicate that the proposed slope of the heap and waste rock stockpiles would be stable and unlikely to produce substantial failures, including landslides, either under normal operating conditions or from ground shaking during regional seismic events." WESTEC (1996b) further states that liner strengths for the stability analyses were based on laboratory tests performed on both the double and composite (clay and synthetic) liner using the planned configurations and past experience with geomembrane liners. An interface friction strength of 26 degrees with no cohesion was determined for the clay liner configuration along the liner/bedding soil contact. For the most critical situation, the lower interface friction strength of 20.2 degrees with no cohesion determined for the smooth double PVC-to-PVC liner contact was used. The use of the clay liner would not require any additional permits.

Revisions to the Final EIS/EIR: None.

RESPONSE TO COMMENT LETTER E001 RECEIVED FROM DEANNA M. WIEMAN, DEPUTY DIRECTOR, CROSS MEDIA DIVISION, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY DATED MARCH 19, 1998

Response to Comment E001:011: (The Following Response is Also Applicable to Comments I002:003, I00200:4, I004:012, I005:016, I008:012, I009:015, I013:243, J005:004)

The rainfall values for different "storms" were used to design the heap leach pad and process/stormwater pond and the wash diversion channels. The heap leach pad and process/stormwater pond containment capacity were calculated using the 1-hour "probable maximum precipitation" (PMP) storm. As stated in Section 2.1.8.1. (page 2-15) of the Draft EIS/EIR:

> "As part of the leach pad construction, the site to be constructed would be graded to ensure solution drainage from the leach pad to the solution ponds. In addition, the heap benches and berms would be constructed to provide for 100 percent containment of the precipitation from the 1-hour probable maximum precipitation (PMP) design storm event (4.65 inches, which is the average of the 1-hour PMP from El Centro and Yuma) in order to minimize runoff from the heap piles and maximize infiltration of storm water into the heap piles."

As further stated in Section 2.1.8.2. (page 2-18) of the Draft EIS/EIR:

> "The working capacity of the pregnant and barren solution ponds, approximately 10.7 million gallons each, would together be sufficient to store the storm water runoff (including a two (2)-foot freeboard) for the first phase of the leach pad without construction of the overflow pond. The approximately 22.4 million gallon storm water overflow pond would be constructed during the construction of the second phase of the leach pad, and would provide sufficient additional storm water capacity (including a two (2)-foot freeboard) for both the second and third phases of the heap leach pad. If the fourth phase of the heap leach pad is constructed, the storm water pond would be expanded to meet the storm water runoff requirements for the additional pad space."

This is reiterated in Section 4.1.3.1.2. (page 4-10 and following) of the Draft EIS/EIR:

> "In addition, the heap benches and berms would be constructed to provide for 100 percent containment of the precipitation from the 1-hour probable maximum precipitation (PMP) design storm event. Since the Project would use process solutions that could potentially be harmful to human health and the environment during the 20-year proposed operating life, the use of the PMP design was selected as the most stringent, prudent and reasonable value, compared to the 100-year/24-hour event or other smaller precipitation event). The PMP was

RESPONSE TO COMMENT LETTER E001 RECEIVED FROM DEANNA M. WIEMAN, DEPUTY DIRECTOR, CROSS MEDIA DIVISION, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, DATED MARCH 19, 1998

calculated to be 4.65" by averaging the PMP values for Yuma, Arizona and El Centro, California. A conservative value of 5" was used in the design."

In contrast, the storm water diversion channels were principally sized using the more common 24-hour, 100-year storm. To answer questions posed by the Imperial County Public Works Department, the runoff from the 6-hour, 100-year storm and the 24-hour, 500-year storm were also calculated (Personal Communication, Tim Haldane, Glamis Imperial, September 18, 1998). As stated in Section 3.3.1.1. (page 3-13) of the Draft EIS/EIR:

"The local catchment areas for these four (4) washes were determined (see Figure 3.7), and estimates of peak flow in each of the washes at the upstream boundary of the Project mine and process area were calculated, through use of a simple computer model, for the 100-year, 6- and 24-hour, and the 500-year, 24-hour storm events (Hanson 1997a; Hanson 1997c). Table 3.2 presents these catchment areas and peak flow estimates for these storms for each of the four (4) washes.

Table 3.2: Estimated Peak Runoff In Washes Through the Project Mine and Process Area

Storm Event	Precipitation (inches)	Peak Runoff by Diversion (cubic feet per second)				
		West Pit West	West Pit East	Singer Pit	East Pit West	East Pit East
		Catchment Basin Area				
		3.00 miles^2	0.974 miles^2	0.27 miles^2	1.30 miles^2	0.684 miles^2
100-year/6-hr	N/A	2,121	888	N/A	1,025	518
100-year/24-hr	4.8	2,043	727	364	925	492
500-yr/24-hr	N/A	2,927	1,083	N/A	1,394	704

Source: Hanson 1997a; Hanson 1997b

Section 4.1.2.2. (page 4-6 and following) of the Draft EIS/EIR specifically states that:

RESPONSE TO COMMENT LETTER E001 RECEIVED FROM DEANNA M. WIEMAN, DEPUTY DIRECTOR, CROSS MEDIA DIVISION, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, DATED MARCH 19, 1998

> "Diversion channels would also be built to approximate the original drainage system in both gradient and channel geometry, and would be designed to convey all runoff flows from the 100-year 24-hour, 100-year 6-hour, and 500-year 24-hour precipitation events."

This is also reiterated in Section 4.1.3.1.2. (page 4-9) of the Draft EIS/EIR:

> "Each of the diversion channels has been designed to safely convey all runoff flows from the 100-year, 6-hour precipitation event, which satisfies the siting requirements for mining waste management units (23 CCR 2572(b)) and exceeds the recommended design values for diversions and drainage facilities around mining waste management units as prescribed in 23 CCR 2572(h)(1)(C). Because there is some potential for flash flooding from thunder storms, the diversion channels have also been designed with an additional "flood bench" area immediately adjacent to the main channel so that the channel and "flood bench" together can easily accommodate the 500-year, 24-hour storm flow (see Figure 2.10)."

Each of the design "storms" mentioned above (the 1-hour PMP; 24-hour/100-year; 6-hour/100-year; and 24-hour/500-year storms) consist of both a "duration" and a "frequency." The "duration" of a storm is the time period over which the total rainfall is accumulated (the "1-hour," "6-hour," or "24-hour" periods of these design storms). The "frequency" of a storm is a measure of how often the given quantity of rainfall over the given duration would be expected to reoccur (that is, how many years would it be before this quantity of rainfall would be expected to fall again in this many hours). These are the "100-year" and "500-year" values (the "PMP" is also a "frequency," in that the "PMP" value for any given duration is not likely to ever be exceeded). For most locations in the United States with long-term precipitation records, rainfall values for each design "storm," or specific statistical methods for calculation of these values, are published in reference documents. For other locations (such as the Project area) where long-term precipitation records are not available, rainfall values for design "storms" must be interpolated from other locations or calculated based upon engineering judgement or agency guidance.

The heap leach pad and process/stormwater pond containment capacity requirements were calculated using the 1-hour PMP event specifically at the request of the staff of the California Regional Water Quality Control Board, Colorado River Basin Region (CRWQCB) [Personal Communication, Tim Haldane, Glamis Imperial, September 18, 1998]. The decisions to average the 1-hour PMP storm values for Yuma, Arizona (5.21") and El Centro, California (4.1") [leading to an average value of 4.65"], then to design to a conservative value of 5.0," were based upon the engineering judgement of the design engineer. The 1-hour PMP of 5" used for the design of the heap leach pad and

RESPONSE TO COMMENT LETTER E001 RECEIVED FROM DEANNA M. WIEMAN, DEPUTY DIRECTOR, CROSS MEDIA DIVISION, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, DATED MARCH 19, 1998

process/stormwater pond containment capacity is greater than the 24-hour, 100-year storm of 4.8" (see Table 3.2 [page 3-13] of the Draft EIS/EIR).

The heap leach pad and process/stormwater ponds were designed consistent with Draft EIS/EIR Mitigation Measure 4.1.3.1-4, which requires that "Each phase of the heap leach pad system (heap, pad, ponds, etc.) shall be designed to provide for 100-percent containment of the precipitation from the maximum probable one (1)-hour storm event occurring simultaneously with a 24-hour power outage while still maintaining a two-foot freeboard in the process and overflow ponds, and shall be consistent with the requirements of the CRWQCB." This is a triple-conservative design criteria. First, this criteria conservatively assumes that all of the rain falling on the top of the heap would immediately flow over the liner into the ponds. In fact, the rain falling on the heap would slowly percolate through the thickness of the ore on the heap, which would substantially delay the time before the rainfall actually reached the heap liner and then the pond.

Second, there are backup systems for both the electrical power to the solution pumps and the solution pumps capacity. As stated in Section 2.1.9.3.1. (page 2-21) of the Draft EIS/EIR, "Emergency power requirements for essential loads and services for the Project during periods of utility service interruption would be provided by a ±750 kW, diesel-powered, electric generator located near the processing facility in the Project mine and process area." The generator is located near the processing facility because the solution pumps, also located at the processing facility, are the most critical of the "essential loads," and the generator is specifically sized to provide sufficient electrical power to the solution pumps to keep them operating during a power failure (Personal Communication, Tim Haldane, Glamis Imperial, September 18, 1998). In addition, the installed solution pumps provide 200-percent capacity for the solution circulation system (Personal Communication, Tim Haldane, Glamis Imperial, September 18, 1998). Given the nominal pumping rate of the solution pump system (4,200 gpm [Personal Communication, Tim Haldane, Glamis Imperial, September 18, 1998]) and the size of the lined leach pad/pond area [285 acres, calculated from the volumes for the ponds and the nominal rate of heap drain down [the rate at which solution (or rain) would drain from the heap, or 3,600 gpm (Personal Communication, Tim Haldane, Glamis Imperial, September 18, 1998)]), the ponds could store the water generated by a total of nearly 5.8" of rain on the entire lined pad/pond area with a two-foot freeboard if the pumps continued to operate at nominal capacity.

Third, the two feet of freeboard in the ponds could hold more than an additional 0.7" of rain, or 25 hours of heap "drain down" (based upon the dimensions of the process/stormwater ponds provided in Figure 2.2 [515 feet by 390 feet and 435 feet by 390 feet, respectively], the rate of heap drain down, and the size of the lined leach pad/pond area). Thus, the process/stormwater ponds could

RESPONSE TO COMMENT LETTER E001 RECEIVED FROM DEANNA M. WIEMAN, DEPUTY DIRECTOR, CROSS MEDIA DIVISION, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, DATED MARCH 19, 1998

contain 5.7" of rain falling over the entire lined pad/pond area with a 24-hour interruption in pumping, or nearly 6.5" of rain if the pumps continued to operate at nominal capacity. Evaporation would reduce the volume of water in the system following the storm, and as stated in Section 2.1.8.1. (page 2-16) of the Draft EIS/EIR: "Sprinklers would be used to apply water during decommissioning and rinsing of the heaps, and possibly to apply barren cyanide solution after major storm events to facilitate evaporation of excess water." Thus, the leach pad and process/stormwater ponds should be easily able to contain "all of the storm and process solutions without overflowing."

As stated in Section 1.1 (page 1-1) of the Draft EIS/EIR, "The Project is located in eastern Imperial County, California, approximately 45 miles northeast of El Centro, California and 20 miles northwest of Yuma, Arizona (Figure 1.1)." In contrast, Needles, California is located approximately 130 miles north of the Project mine and process area, which a much greater distance from, and thus poorer choice for the 1-hour PMP for, the Project. (In addition, CDWR Bulletin 195 lists the 1-hour PMP for Needles at 4.61," which is less than the design 1-hour PMP value used for the heap leach pad and solution/stormwater ponds.) Because of Needles' substantial distance from the Project mine and process area, it is inappropriate to use the value of 5.12" reported for a storm in Needles, CA in 1939 as the design storm.

The storm water drainage diversions are principally sized using the 24-hour, 100-year storm. In addition, at the request of the Imperial County Department of Public Works, the drainage diversions were also sized using the 6-hour, 100-year and 24-hour, 500-year storms (Personal Communication, Tim Haldane, Glamis Imperial, September 18, 1998). The 24-hour, 100-year storm value of 4.8" printed in Table 3.2 in the Draft EIS/EIR was derived from the California Department of Water Resources (CDWR) Bulletin 195, as specifically requested by the CRWQCB (Personal Communication, Tim Haldane, Glamis Imperial, September 18, 1998). [The 24-hour, 100-year storm of 3.5" printed in Table 3.2 in the November 1996 Draft EIS/EIR was derived from the National Oceanic and Atmospheric Administration atlas.] The design values used for the 6-hour, 100-year storm (3.54") and the 24-hour, 500-year storm (6.5") were both also derived from the CDWR Bulletin 195 using rainfall data from Gold Rock Ranch (Personal Communication, Tim Haldane, Glamis Imperial, September 18, 1998). These values were not reported in Table 3.2 of the Draft EIS/EIR, but will be added to Table 3.2 in the Final EIS/EIR.

Revisions to Final EIS/EIR: The second sentence in the second paragraph of Section 2.1.9.3.1. on page 2-21 of the Draft EIS/EIR is revised to clarify that the emergency generator would power the solution pump system during periods of utility service interruption: "Emergency power requirements for essential loads (including the solution pump system) and services for the Project during periods

RESPONSE TO COMMENT LETTER E001 RECEIVED FROM DEANNA M. WIEMAN, DEPUTY DIRECTOR, CROSS MEDIA DIVISION, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, DATED MARCH 19, 1998

of utility service interruption would be provided by a ±750 kW, diesel-powered, electric generator located near the processing facility in the Project mine and process area.

The 6-hour, 100-year and 24-hour, 500-year storm values are added to Table 3.2 in the Final EIS/EIR:

Table 3.2: Estimated Peak Runoff In Washes Through the Project Mine and Process Area

Storm Event	Precipitation (inches)	Peak Runoff by Diversion (cubic feet per second)				
		West Pit West	West Pit East	Singer Pit	East Pit West	East Pit East
		Catchment Basin Area				
		3.00 miles^2	0.974 miles^2	0.27 miles^2	1.30 miles^2	0.684 miles^2
100-year/6-hr	3.54	2,121	888	N/A	1,025	518
100-year/24-hr	4.8	2,043	727	364	925	492
500-yr/24-hr	6.5	2,927	1,083	N/A	1,394	704

"N/A" = Not Applicable
Source: Hanson 1997a; Hanson 1997b

Mitigation Measure 4.1.3.1-4 is amended to require that the emergency generator provide power to the solution pump system, and that the solution pump system be installed with 200-percent of nominal pumping capacity to allow pumping to continue during utility power failures or if one of the solution pumps fail: "Each phase of the heap leach pad system (heap, pad, ponds, etc.) shall be designed to provide for 100-percent containment of the precipitation from the maximum probable one (1)-hour storm event occurring simultaneously with a 24-hour power outage while still maintaining a two-foot freeboard in the process and overflow ponds, and shall be consistent with the requirements of the CRWQCB. The emergency generator shall be designed and installed to provide power to the solution pump system during periods of utility service interruption, and the solution pump system shall be installed with 200-percent of nominal pumping capacity.

Response to Comment E001:012: (The Following Response is Also Applicable to Comments E002:007, I013:298 and J010:003.) As stated in Section 4.1.5.5. (page 4-78) of the Draft EIS/EIR, "If mining is suspended or terminated prior to backfilling of the West Pit, the West Pit would remain

RESPONSE TO COMMENT LETTER E001 RECEIVED FROM DEANNA M. WIEMAN, DEPUTY DIRECTOR, CROSS MEDIA DIVISION, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, DATED MARCH 19, 1998

as an open excavation and could produce adverse effects on wildlife. Mitigation measures are proposed in this EIS/EIR which would reduce these effects to below the level of significance." As stated in Section 4.1.5.3.2. (page 4-55) of the Draft EIS/EIR, the impacts to wildlife resulting from an open excavation in the West Pit would be significant. Mitigation Measures 4.1.5-48 (requiring backfilling to a level necessary to eliminate the potential for a pit lake from ground water), 4.1.5-49 (requiring avoiding surface water runon and "rubblizing" the bottom of the pit to absorb water), and 4.1.5-50 (regrading haul roads to provide exits from the open pit), all on page 4-76 of the Draft EIS/EIR, are specifically designed to mitigate the impacts to below a level of significance.

Mitigation Measures 4.1.5-48, 4.1.5-49, and 4.1.5-50 mitigate the potentially significant biological impacts of the Proposed Action in the event that operations are suspended before the West Pit is backfilled to below the level of significance. In addition, requiring the backfilling of the West Pit in the event that operations are suspended early would not substantially reduce or eliminate any significant biological impacts of the Proposed Action.

As stated in Section 4.1.5.3.2. (page 4-55) of the Draft EIS/EIR, "Although any water in a pit lake would not be injurious to wildlife (see Section 4.1.3.2.2.), wildlife species coming to drink could be exposed to predators which may use the pit area as a place to wait for prey."

Revisions to the Final EIS/EIR: None.

Response to Comment E001:013: (The Following Response is Also Applicable to Comments A001:007, D002:003, H001:005, I005:005, I010:012, I013:318, I013:319, I013:355, I017:008 and I018:003.) The American Indian Religious Freedom Act (AIRFA), 42 USC § 1996 provides:

> "Henceforth it shall be the policy of the United States to protect and preserve for American Indians their inherent right of freedom to believe, express, and exercise the traditional religions of the American Indian, Eskimo, Aleut, and native Hawaiians, including but not limited to access to sites, use and possession of sacred objects, and the freedom to worship through ceremonies and traditional rites."

The United States Supreme Court has held that AIRFA sets forth a governmental policy only, and does not "create a cause of action or any judicially enforceable individual rights." *Lyng v. Northwest Indian Cemetery Protective Association* (1988) 485 U.S. 439, 455; and, see, *The Klamath Tribes* (1996) 135 IBLA 192, 198. According to this IBLA decision, the BLM departmental policy requires that:

RESPONSE TO COMMENT LETTER E001 RECEIVED FROM DEANNA M. WIEMAN, DEPUTY DIRECTOR, CROSS MEDIA DIVISION, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, DATED MARCH 19, 1998

> "BLM must consult with Native Americans and consider the consequences of its decision on the exercise of their religion; AIRFA does not mandate that BLM's decision is to be in accord with their beliefs. The Blackfeet Tribe, 103 IBLA 228, 240 (1988). This Board does not review a BLM decision to ascertain whether the decision conforms to the Tribes' religious beliefs and practices. We consider whether BLM adequately consulted with the Tribes, carefully considered their religious values and practices, and undertook reasonable measures to mitigate effects when making its decision. *Wilson v. Block* [708 F.2d 735, 745-47 (D.C. Cir.) cert. denied 464 U.S. 956 (1983)]; see *Red Thunder, Inc.*, 124 IBLA 267, 286-87 (1992); *Kenneth W. Bosley*, 91 IBLA 172 (1986)."

Adequate Native American consultation was conducted for the Project, and is described in the report "Native American Consultation For The Glamis Imperial Project," attached as Appendix C to Appendix L of the Draft EIS/EIR. The recent Solicitor's Opinion, included in the FEIS as Appendix T, contains a discussion of the Quechan tribal religion and the First Amendment which BLM will also consider in reaching a final decision.

Revisions to the Final EIS/EIR: None.

Response to Comment E001:014: Chapter 5 of the Draft EIS/EIR, "Cumulative Effects,"provided a discussion of the past, present and future actions, including all federal, nonfederal, and private actions. The description of the affected environment focused on each affected resource, and the extent of the affected environment was specific to each affected resource.

The cumulative impact analysis for hydrologic resources focused only on ground water impacts, as none of the other mining projects in the hydrologic basin diverted ephemeral stream channels to anywhere near the same degree as the Proposed Action. The analysis of the effects of these diversions by the Proposed Action are found in Section 4.1.3.1.2. of the EIS/EIR.

Revisions to the Final EIS/EIR: None.

Response to Comment E001:015: (See Also Responses to Comments I013:276 and E001:014.) The comment regarding mineral exploration on page 5-5 of the Draft EIS/EIR reads in its entirety "Mineral exploration activities are ongoing to some extent at each of the mines within the cumulative impacts study area. However, these activities would not substantially impact the resources of concern *because they have already been accounted for in the impacts resulting from the*

RESPONSE TO COMMENT LETTER E001 RECEIVED FROM DEANNA M. WIEMAN, DEPUTY DIRECTOR, CROSS MEDIA DIVISION, UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, DATED MARCH 19, 1998

mine operations themselves." (Emphasis added) What the last sentence attempts to convey is that the impacts of this exploration activity are already accounted for in the impacts of each project itself.

Revisions to the Final EIS/EIR: None.

Response to Comment E001:016: See Response to Comment I012:042.

Response to Comment E001:017: See Responses to Comments E002:017 and E002:019.

Response to Comment E001:018: See Response to Comment I005:012.

Response to Comment E001:019: (The Following Response is Also Applicable to Comment F001:010.) The goals and management actions for the Indian Wash Habitat Management Plan (HMP) contained in the California Desert Plan are discussed in Section 3.5.4.2. (page 3-45) of the Draft EIS/EIR. The proposed management actions to protect, stabilize, and/or enhance wildlife resource values in the area include control of vehicle use, restriction of camping and parking, and increasing surveillance in the area. Section 4.1.5.3. (pages 4-50 through 4-64) describes the anticipated effects of the Project on the wildlife and wildlife habitat of the Project area and vicinity. It is unknown if the Indian Wash HMP would contain provisions for reclamation. Discussion of how the BLM considers these impacts in light of its statutory and regulatory mandates is more appropriately part of the BLM's decision-making process regarding the Plan of Operation, rather than as part of the environmental assessment required under NEPA, and this issue will be appropriately addressed in the Record of Decision.

Revisions to the Final EIS/EIR: None.

Response to Comment E001:020: Comment noted.

Revisions to the Final EIS/EIR: None.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
Carlsbad Field Office
2730 Loker Avenue West
Carlsbad, California 92008

E002

APR 13 1998

Memorandum

To: U. S. Bureau of Land Management, El Centro Resource Area, El Centro, California (Attn: Douglas Romoli)

From: Assistant Field Supervisor

Subject: Draft Environmental Impact Statement/Environmental Impact Report, Imperial Project, Imperial County, California (1-6-98-TA-95)

The U.S. Fish and Wildlife Service (Service) has reviewed the draft Environmental Impact Statement (EIS)/Environmental Impact Report (EIR), received November 25, 1997, concerning the planned development of an open-pit, heap leach precious metal mine (Hedges USGS 7.5' Quadrangle, T13S, R21E, Sections 31, 32, and 33, and T14S, R21E, Sections 4, 5, 6, 7, and 8) in eastern Imperial County, California. The project mine, process area, ancillary facilities, and associated overbuilt transmission line are proposed on approximately 1,631 acres of public lands located between the southern Cargo Muchacho Mountains and the northern Chocolate Mountains. Sonoran mixed woody and succulent scrub vegetation dominate the expanse of the site's broad alluvial fan while a system of braided channels, supporting a desert dry wash woodland (or microphyllous woodland) community type, traverse the area from a northeastern to southwestern direction. The Service, in response to the draft EIS/EIR, is providing the following comments/recommendations regarding the proposed construction, operation, maintenance, and reclamation of the Imperial Project mining venture.

General Project Comments

Section 1.6.1. Bureau of Land Management, Page 1-13 and Section 6. Reclamation Plan, Page 19. The planned action is located entirely within a California Desert Conservation Area designated as Class L - Limited Use lands. The management of such areas, as stated in the document, is structured toward providing "protection to sensitive natural, scenic, ecological, and cultural resources" while limiting "uses that may conflict with or degrade these values". According to the Bureau of Land Management (BLM), mineral development is deemed permissible as long as the action is achieved with minimum environmental impact, and incorporates the best available/most effective mitigation technology and reclamation practices.

001

However, the Reclamation Plan readily admits that it's ultimate goal will not involve restoration or revegetation to the original land form, "but to a natural state that blends in with the existing undisturbed terrain". The implication is that from the onset, reclamation efforts will not attempt to fully restore the function/value of the natural ecosystem and that an indeterminable amount of resources, functions, and values will be invariably lost due to the proposed project. However, if the Service's interpretation is incorrect, a detailed definition of "natural state" is requested.

Section 2.1.11.2.3. Drainage Reestablishment and Erosion Control, Page 2-40. The Service would strongly dissuade the application of cement grout within the diversion channels to
002 prevent the likelihood of subsurface flows into an open pit. As stated, utilization of such materials would not only eliminate the area from revegetation consideration, but also introduce an artificial and highly non-erodable substance into the desert environment; with both events degrading the natural fluvial processes and existing on-site desert wash conditions.

Section 2.1.11.3.1. Soil Salvage and Stockpile, Page 2-42 and Section 4.1.2.3. Measures Incorporated by Project Design and Regulation and Mitigation Measures, Page 4-7. The
003 dimensions of shallow stockpiles were not quantitatively defined within the document. Generally, stockpiled soils should not be allowed to exceed a height of 3 ft or remain *in situ* for greater than 1 year. Salvaged soils which remain stockpiled for longer time periods or at increased depths will lose a high percentage of viable seeds and mycorrhizal fungi.

Section 2.1.11.3.6. Seeding, Planting, and Transplanting, Page 2-45. The primary reason for utilizing locally collected seeds is to reestablish the native plant communities which existed
004 prior to the onset of mining, thereby providing an overall benefit to the recovering ecosystem, and not merely advancing the interests of selected species (i.e., increasing available deer browse). The Service recommends that the reclamation effort emphasize measures to promote all vertebrate/invertebrate communities within the action area.

Section 3.5.6. Wildlife, Page 3-58. An inconsistency exists between the data presented in the draft EIS/EIR and supplemental information submitted by the Imperial Irrigation District
005 concerning the overbuilding of the 92 kV/34.5 kV transmission line. The former describes a 50 ft^2 construction area around each power pole, while the latter documents a 2,500 ft^2 (50 ft by 50 ft) region of disturbance for the same scenario.

Section 4.1.3.2.2. Impacts of the Proposed Action, Page 4-23. No contingency plans appear
006 to exist within or attached to the draft EIS/EIR regarding the potential necessity of leach pad repairs in the event of a breach/leak.

Section 4.1.5.3.2. Impacts on Wildlife and Wildlife Movement, Page 4-55 and Section 4.1.5.4. Measures Incorporated by Project Design and Regulation and Mitigation Measures, Page 4-76.
007 No barrier has been proposed around the perimeter of the West Pit to prevent the inadvertent intrusion of humans/wildlife into the area should mining operations terminate prematurely.

Section 4.1.5.3.4. Impacts to Other Wildlife Species of Concern and Habitat, Pages 4-63 and 4-64 and Section 4.1.5.4. Measures Incorporated by Project Design and Regulation and Mitigation
008 Measures, Pages 4-65, 4-67, 4-68, and 4-77. Issues relating to the reclamation/revegetation plan or guzzler placement/construction shall require coordination and approval from all the participating Federal agencies; including the Service. Reports summarizing project-related wildlife mortalities, microphyll woodland survey results, and revegetation monitoring efforts shall be submitted annually to the Service, BLM, and California Department of Fish and Game, as appropriate.

Section 4.1.5.4. Measures Incorporated by Project Design and Regulation and Mitigation Measures, Page 4-76. Any modifications to the well field or drilling activities will require
009 reinitiation of formal consultation on the Imperial Project. Alterations in the proposed action would constitute new information which may cause an effect to listed species or critical habitat that was not considered in the original biological opinion and, as such, shall not be covered under the Biological Opinion for Small Mining and Exploration Operations in the California Desert.

Comments on the Affected Natural Resources

Table S.1: Summary of Potential Environmental Effects and Mitigation Measures, Page S-42. An apparent inconsistency exists between a mitigation measure presented in the draft EIS/EIR
010 and that included in the BLM's biological assessment regarding tortoise monitoring. The draft document indicates that "tracking" of relocated and resident desert tortoise will be conducted "weekly over a three year period during the activity period" of the species, while the biological assessment states that monitoring will be performed on a monthly basis.

Section 3.5.6.2. Biological Survey Findings, Page 3-78 and Section 4.1.5.4. Measures Incorporated by Project Design and Regulation and Mitigation Measures, Page 4-66.
011 Currently, three deer guzzlers are known to exist approximately 0.8 miles (SCI), 2.0 miles (CDFG), and 2.5 miles (Duncan Hunter) from the proposed project site. Specific details concerning the location, and subsequent construction, installation, maintenance, and entry to any new wildlife guzzlers will be required by the Service to determine potential impacts on the federally threatened desert tortoise (*Gopherus agassizii*).

Section 4.1.5.2. Impacts of the Proposed Action on Vegetation and Plant Habitat, Page 4-48, Section 4.1.5.4. Measures Incorporated by Project Design and Regulation and Mitigation
012 Measures, Page 4-69, and Section 6.6. Reclamation Plan, Page 64. Details (e.g., targeted species, eradication methods, timing of removal/herbicide use) regarding a program of exotic plant control will need to be thoroughly delineated and submitted to the various Federal agencies, including the Service, for approval.

013 Section 4.1.5.3.2. Impacts on Wildlife and Wildlife Movement, Page 4-54 and Section 4.1.5.4. Measures Incorporated by Project Design and Regulation and Mitigation Measures, Page 4-75. Information concerning appropriate transmission line designs which eliminate

raven nest/perch sites, and project-related predation on the desert tortoise, were not specified within the draft EIS/EIR, but should be incorporated into the final document.

014 Section 4.1.5.3.4. Impacts to Other Wildlife Species of Concern and Habitat, Page 4-59 and Section 4.1.5.4. Measures Incorporated by Project Design and Regulation and Mitigation Measures, Page 4-71. Sensitive bird species (e.g., loggerhead shrike, black-tailed gnatcatcher, LeConte's thrashers, and crissal thrasher), as well as other migratory birds, are known to occur in the project area. As such, issues concerning the Migratory Bird Treaty Act and planned mining activities need to be adequately addressed within the environmental document.

015 Section 4.1.5.4. Measures Incorporated by Project Design and Regulation and Mitigation Measures, Page 4-78. The proposed reclamation of the bottom of the East Pit (i.e., 33 acres), even if considered successful by current revegetation success criteria, will not be suitable as wildlife habitat due to it's unnaturally, steep topography.

Comments on the Proposed Reclamation Plan

016 Section 2.1.11.2.4. Structure Demolition and Facility Removal, Page 2-41, Section 3.2. Reclamation Plan, Page 8, and Section 6.6. Reclamation Plan, Page 44. The draft EIS/EIR states that following upgrade of the existing 13.2 kV transmission line, disturbed areas will be raked and allowed to naturally revegetate. Ultimately, the powerline was not considered part of the project's overall facilities as the utility is owned by the Imperial Irrigation District. The Service would stress that the activity constitutes an interrelated and interdependent action of the overall proposed mining operation. Therefore, the applicant will be responsible for proper reclamation (e.g., seeding, transplanting) of the area.

017 Section 2.1.11.3.3. Revegetation Test Plots, Page 2-43. The procedures, details, and criteria (e.g., location, orientation, and length) for the selection/establishment of the reclamation test plots and off-site vegetation transects were not specifically outlined within the draft EIS/EIR. The same set of transects within the undisturbed, adjacent plant community types should be utilized throughout the monitoring phase of the reclamation effort to ensure a consistent vegetation database.

018 Section 2.1.11.4.1. Vegetation Monitoring, Page 2-49. Remediation measures were not described in the draft document, in the event that revegetation efforts proved unsuccessful.

019 Section 4.1.5.2.3. Impacts to CNPS List 4 Species and Habitat, Page 4-50, Section 4.1.5.3.4. Impacts to Other Wildlife Species of Concern and Habitat, and Section 6.2. Reclamation Plan, Page 26. Specific success criteria must be established for the two California Native Plant Society special status species which will be included in the revegetation seed mix; fairy duster (*Calliandra eriphylla*) and winged cryptantha (*Cryptantha holoptera*). Seeds of the species should also be broadcast only upon reclaimed drainages and not within disturbed upland areas, due to the species' known association with washes.

Section 4.1.5.4. Measures Incorporated by Project Design and Regulation and Mitigation Measures, Page 4-67. Reclamation of the permanent diversion channels through transplantings
020 must be conducted at higher densities than existing vegetation to account for mortality and allow for the eventual establishment of plant densities which are reflective of surrounding, undisturbed drainages.

Section 6. Reclamation Plan, Page 19. The Reclamation Plan should separately consider the rehabilitation of two distinct community types (i.e., Sonoran mixed woody and succulent scrub and desert dry wash woodland [microphyll woodland]) and not merely utilize a single, averaged criterion for the entire system. In general, plant cover will not provide an appropriate measure for revegetation success as the index varies yearly, depending upon
021 rainfall events. Species density and diversity will afford a more reliable and consistent measure of the overall status of the reclaimed plant communities. Accordingly, each vegetation type should have been quantitatively assessed for it's current level of density and diversity. Additionally, the reclamation plan should confine planting/seeding of wash species to areas in the decommissioned mine which demonstrate the appropriate topography/accompanying landscape dynamics which would be suitable in maintaining microphyll woodland habitat.

Section 6.2 Reclamation Plan, Pages 26 and 61. Transplants of ocotillo (*Fouquieria splendens*), barrel cactus (*Ferocactus cylindraceus*), and cholla (*Opuntia spp.*) into the catchment basins should be conducted at densities that are comparable to either pre-mining
022 conditions or adjacent, undisturbed upland habitat. Transplant relocations should be performed as expeditiously as possible or, if not feasible, the salvaged plants should be properly stored (e.g., nursery facility) and outplanted during late autumn to increase the likelihood of survival.

Section 6.6. Reclamation Plan, Pages 33, 42, and 68. Revegetation/enhancement of disturbed microphyllous woodland through seeding/transplants will incorporate the use of supplemental watering for a period of 2 years. Monitoring shall be conducted during this initial phase, but
023 should not be utilized to test revegetation success criteria due to the persistence of artificial enhancement. Once irrigation has terminated, the period evaluating reclamation success can commence. As stated in the draft EIS/EIR, post-closure monitoring of the revegetation effort, following reclamation of the leach heap pad, is expected to proceed for a minimum of 5 years.

Section 6.6. Reclamation Plan, Pages 33, 54, and 62. Seed collection in the vicinity of the
024 project should be limited to the areas immediately adjacent to the proposed site. The purchasing of any supplemental seed sources, if necessary, must assure that the materials are derived from southern California, representative of the same species/subspecies as plants recorded from the mine, and capable of establishing/persisting at the elevation levels (760 ft - 925 ft) found on-site.

Section 6.6. Reclamation Plan, Pages 50 and 55. The Reclamation Plan indicates that salvaged soils will only be derived from the surface of disturbed wash areas (approximately 112,200 cubic yards) and applied throughout the mine site during the revegetation phase.

025 Restricting the salvageable soils to the microphyll woodland areas will limit the amount of top soil available to the overall reclamation plan and exclude the unique elements of the upland regions (e.g., organic matter, mycorrhizae, seed source, nutrients [phosphorus, nitrogen]) which are essential to the reestablishment of Sonoran mixed woody and succulent scrub.

Section 6.6. Reclamation Plan, Page 53. The application of seeds (i.e., broadcasting) should be limited to the months of October, November, and December to utilize the optimal

026 precipitation typically occurring in desert systems. Unfortunately, summer rains may not be as plentiful or reliable as winter precipitation in promoting plant germination/establishment.

Section 6.6. Reclamation Plan, Page 66. Reclamation efforts will be deemed successful with the establishment (over two consecutive years) of 30% density and 33% diversity in the revegetated plots. The Service strongly recommends that the criteria require attainment of 80% density and diversity of native perennials relative to some corresponding, undisturbed

027 baseline community (i.e., either microphyll woodland or upland habitat types). The presence/absence of annuals will vary greatly depending upon the current year's rainfall. Therefore, the 80% level of density and diversity should be compared on an annual basis with existing vegetation conditions. Additionally, the establishment of exotic species in the reclaimed areas should be not be considered as contributing positively to the overall diversity and density of the revegetation effort; as the plants represent an undesirable component of the system.

In summary, the Service recommends that the BLM require the applicant to clarify and incorporate the above general project comments, and specific remarks regarding the affected natural resources and proposed reclamation plan prior to completion of a final EIS/EIR. The Service appreciates the opportunity to review the draft document. Any questions or concerns pertaining to this correspondence can be directed to Debbie MacAller of my staff at (760) 431-9440.

RESPONSE TO COMMENT LETTER E002 RECEIVED FROM UNITED STATES DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE, DATED APRIL 13, 1998

Response to Comment E002:001: See Response to Comment I027:002.

Response to Comment E002:002: As stated in Section 2.1.9.7. (page 2-40) of the Draft EIS/EIR [and discussed in Section 6.6(d) of the Reclamation Plan (Appendix A of the Draft EIS/EIR)]:

> "During the period that an adjacent pit is open, a diversion channel may be temporarily lined with high density plastic or clay protected by rip rap to prevent subsurface flows into the open pit. Additionally, any areas of the diversion channels which might be especially susceptible to erosion from surface flows would be bermed and/or rip-rapped to prevent erosion and potential damage during the period when an adjacent pit is open. Once the pits have been backfilled (see Section 2.1.3.), or mining is complete, any rip rap or temporary plastic liners installed in a diversion channel would be removed and the channel regraded. Once all construction activity within a diversion channel has been completed, stockpiled soil from disturbed washes would be spread along diversion channel banks. The channel slopes and banks would be planted with wash vegetation directly transplanted from other disturbed drainages and/or selectively planted with young ironwood and palo verde trees or seedlings to begin to reestablish microphyll woodland habitat similar to that removed by excavation of the original stream channel."

To ensure the removal of these lining materials (except as the BLM and CDFG may jointly determine otherwise to protect vegetation which may have become established while the diversion channel was lined), Mitigation Measure 4.1.5-15 (page 4-68) requires that "Unless explicitly directed otherwise by the BLM (in consultation with the CDFG), all diversion channel lining materials and rip rap shall be removed from the diversion channels." Further, Mitigation Measure 4.1.5-11 requires that the Applicant:

> "conduct annual transect surveys in the spring season of the ephemeral washes which flow out of the Project mine and process area, the principal washes which flow into the Project mine and process area upstream of the Project mine and process area to serve as a control, and the undisturbed ephemeral washes within the Project mine and process area, for the purpose of determining if Project construction and/or operations are having an indirect adverse effect on microphyll woodland habitat not directly impacted by surface disturbance . . . . The surveys shall also document any observations regarding sediment transport processes within the washes . . . . If, as a result of these surveys, microphyll woodland habitat downstream of the Project mine and process area is determined to be adversely impacted by

RESPONSE TO COMMENT LETTER E002 RECEIVED FROM UNITED STATES DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE, DATED APRIL 13, 1998

the Project, appropriate additional mitigation measures may be required by the BLM and shall be implemented by the Applicant."

These mitigation measures reduce the effects of the temporary lining of the washes next to the open pit(s) below the level of significance.

Revisions to the Final EIS/EIR: None.

Response to Comment E002:003: (The Following Response is Also Applicable to Comments I013:165 and I013:166.) Mitigation Measure 4.1.2-2 (page 4-7) of the Draft EIS/EIR states: "Stockpiles shall be kept shallow and dry, if not to be used within one (1) year of initial placement, to protect seeds." Based upon the amount of soil to be salvaged (112,200 cubic yards [Section 2.1.11.3.1. of the Draft EIS/EIR]) and the area of the two soil stockpiles (30 acres [Table 2.1 of the Draft EIS/EIR]), the average depth of salvaged soil in the soil stockpiles would be 2.3 feet. However, as described in Section 2.1.11.2. (page 2-37) of the Draft EIS/EIR (and Section 5.4, page 16, of the Reclamation Plan), concurrent reclamation of the diversion channels during initial construction would consume reclaimed soil before it was stockpiled.

Reclamation currently being conducted at other mine sites in the area (Picacho and American Girl) have shown that the vast majority of the native plant species do not require the addition of symbiotic fungi to germinate, grow, and survive (Personal Communication, Samuel A. Bamberg, Ph.D., Bamberg and Associates, September 17, 1998), which is one reason why the washed, neutralized heap provides a good growth media. The soil microbes are reestablished through spores and other means of dispersal as the vegetation matures and the reclaimed material weathers. Since there was no soil to salvage at the site of the Picacho Mine, soil was not improperly salvaged or stored at the Picacho Mine (Personal Communication, Samuel A. Bamberg, Ph.D., Bamberg and Associates, September 17, 1998).

Revisions to the Final EIS/EIR: None.

Response to Comment E002:004: Section 2.1.11.1. (page 2-33) of the Draft EIS/EIR quotes the Reclamation Plan (Appendix A of the Draft EIS/EIR, at page 26) regarding the goal to establish the biotic community:

"Revegetate disturbed areas using native plant species endemic to the area in order to establish a long-term productive biotic community compatible with proposed post-mining

RESPONSE TO COMMENT LETTER E002 RECEIVED FROM UNITED STATES DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE, DATED APRIL 13, 1998

land uses and capable of self-regeneration without the long-term dependency on maintenance, soil amendments, or fertilizers, including;

- Planting and transplanting young ironwood (Olneya tesota), palo verde (Cercidium floridum) trees or seedlings and shrub species along the channels which divert the throughgoing washes to reestablish the microphyll woodland habitat in acreage roughly equivalent to that acreage currently found along these channels within the Project mine and process area;

- Transplant ocotillo, barrel cactus and species of cholla into catchment basins;

- Adding seeds of the California Native Plant Society (CNPS)-listed, but locally common, endemic fairy duster (Calliandra eriophylla) and winged forget-me-not (Cryptantha holoptera) to the revegetation seed mix."

The phase from Section 2.1.11.3.6. (page 2-45) of the Draft EIS/EIR of concern to the comment (". . . the seed mixture would include native plant seeds collected in the local area designed to increase available browse for deer") means only that the "deer browse" is to be added to the seed mix. This addition would not be at the expense of other species.

Revisions to the Final EIS/EIR: None.

Response to Comment E002:005: The sentence may be unclear but is not incorrect. There is assumed to be a 50-foot by 50-foot (2,500 square feet, or 0.057 acre) area which would be disturbed around each of the overbuilt 92 kV/34.5 kV transmission line poles. Sixteen poles are assumed to be within microphyll woodland habitat; this translates to 0.92 acre, which was rounded up to 1 acre.

Revisions to the Final EIS/EIR: The second full sentence on page 3-58 of the EIS/EIR will be modified to clarify its meaning as follows:

"Assuming an approximately 50-foot-~~square~~ by 50-foot (2,500 square foot) area of disturbance around each power line pole, and providing again a 20 percent methodology error, this translates to approximately 1 acre of microphyll woodland habitat which would be disturbed (or about 5 percent of the total 22 acres of disturbance) along the overbuilt 92 kV/34.5 kV transmission line corridor."

Response to Comment E002:006: See Response to Comment E001:009.

RESPONSE TO COMMENT LETTER E002 RECEIVED FROM UNITED STATES DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE, DATED APRIL 13, 1998

Response to Comment E002:007: See Response to Comment E001:012.

Response to Comment E002:008: (See Also Response to Comment F002:002.) Mitigation Measure 4.1.5-3 requires monthly reporting of wildlife killed in ponds or heap to be reported to the BLM, CDFG and USFWS. However, the USFWS was not specifically identified in the Draft EIS/EIR as a participant in the following: Mitigation Measures 4.1.5-1, which requires monthly reporting of wildlife mortality within the mine and process area to the BLM and CDFG; Mitigation Measures 4.1.5-9 and 4.1.5-14, which require design, location and construction of guzzlers subject to BLM and CDFG approval; Mitigation Measure 4.1.5-11, which requires annual transect surveys of microphyll woodland washes up and down gradient of the Project mine and process area and reporting to the BLM and CDFG; and Mitigation Measures 4.1.5-13, 4.1.5-15 through 4.1.5-24, and 4.1.5-51; which address reclamation plan/vegetation plan issues and reporting to the BLM and Imperial County.

As discussed in Section 3.5.2. (pages 3-42 and 3-43) of the Draft EIS/EIR, the BLM is required to undertake and complete consultation with the USFWS under Section 7 of the Endangered Species Act of 1973 prior to any approval of the Project, under which the USFWS would issue a Biological Opinion for the Project which would "specify the terms and conditions under which the listed species (desert tortoise) may be taken." Mitigation Measure 4.1.5-27 requires that Glamis Imperial comply with all of the terms and conditions of the Biological Opinion. The USFWS issued their Biological Opinion on March 28, 2000, and any agreements between the BLM and the USFWS resulting from the Biological Opinion for USFWS participation in these requested activities, will be made part of the BLM's decision-making process regarding the Plan of Operation, rather than as part of the environmental assessment required under NEPA, as all of the USFWS requests are for receipt and approval of otherwise required reports. The USFWS terms and conditions have been incorporated into the biological resources mitigation measures in the Final EIS/EIR. The USFWS has also been added as an oversight agency, as appropriate, in other mitigation measures in the Final EIS/EIR. The findings of the Section 7 consultation will also be appropriately addressed in the Record of Decision.

Revisions to the Final EIS/EIR: None.

Response to Comment E002:009: Comment noted. The consultation process under the federal Endangered Species Act is described in Section 3.5.2. (page 3-41 and 3-42) of the Draft EIS/EIR.

Revisions to the Final EIS/EIR: None.

RESPONSE TO COMMENT LETTER E002 RECEIVED FROM UNITED STATES DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE, DATED APRIL 13, 1998

Response to Comment E002:010: Comment noted. The final tortoise relocation and tracking monitoring program will be consistent with the requirements of the USFWS Biological Opinion for the Project.

Revisions to the Final EIS/EIR: The USFWS Biological Opinion for the project has been appended to Volume I of the Final EIS/EIR as Appendix S, and the relevant mitigation measures provided in the Draft EIS/EIR have been amended to reflect the following terms and conditions prescribed by the USFWS Biological Opinion.

Reasonable and Prudent Measures

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize the impacts of incidental take of desert tortoise:

1. *On-site biological supervision/monitoring, along with clearance surveys and relocation efforts, shall be utilized to reduce the likelihood of harm/harassment to the desert tortoise.*

2. *Employee education programs, designated work areas, defined operational procedures, reclamation efforts, and a microphyll woodlands assessment shall minimize the impact of mine-related operations on both the desert tortoise and the species' associated habitat.*

Terms and Conditions

To be exempt from the prohibitions of section 9 of the Act, the BLM must comply with the following terms and conditions, which implement the reasonable and prudent measures described above and outline required reporting/monitoring requirements. A portion of the terms and conditions have been adopted form Glamis' conservation measures, with minor modification fro the proposed project. These terms and condition are non-discretionary.

1. *The following terms and condition will implement reasonable and prudent measure number 1:*

   1.1 The project proponent shall designate a field contract representative (FCR) who will be responsible for overseeing compliance with protective measures for the desert

RESPONSE TO COMMENT LETTER E002 RECEIVED FROM UNITED STATES DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE, DATED APRIL 13, 1998

tortoise, involved in compliance coordination with the BLM, and authorized to halt any mine-related actions that may be in violation of the biological opinion. The FCR (a contract biologist, company environmental coordinator, project manager, or other appropriate mine employee) shall retain a copy of the tortoise stipulations and be available on-site for all project activities.

1.2 Only the authorized biologist (a Service and BLM approved wildlife biologist demonstrating experience in the proper handling of desert tortoises, and locating tortoises and their sign) and other persons confirmed by the Service, under the auspices of the current biological opinion, shall be permitted to handle/relocate desert tortoises. The BLM shall submit the names and credentials of individuals to the Service for review and approval at least 15 days prior to the onset of any mine-related operations. No excavation/surface disturbing activities will commence until, at least the authorized biologist has been selected. A biological monitor (a qualified biologist with education/training/experience in conducting surveys, a monitoring/supervising project operations, and implementing tortoise avoidance and minimization measures) or the authorized biologist shall be present during all surveying efforts (excluding archaeological work), any powerline construction, overbuilding activities, pipeline installation, water well excavation, or road realignments.

1.3 Within the project mine and process area, clearance surveys shall be conducted (using Service approved protocol) by the authorized biologist immediately following tortoise fence installation and prior to any ground disturbing events. Along the pipeline (inclusive of water well excavation) and powerline corridors (Indian Pass Road and the extension from Interstate 8 to Ogilby Road), or in conjunction with the road realignments, surveys shall be similarly performed, however, in the absence of a fencing requirement, clearance efforts must be initiated no greater than 1-week prior to anticipated surface impacts. For the transmission and underground water pipelines, and the road modifications, all desert tortoise burrows, as well as other suitably sized burrows, within 15 m (50 ft) of access trails/roads, stockpiling/storage areas, power pole placement, pipeline trenches, water well locations, and realigned road sections shall be examined for species presence. To the maximum extent possible, active burrows shall be conspicuously marked and avoided. Tortoises occupying burrows that will be directly and permanently impacted by the ancillary activities shall be removed by the authorized biologist.

RESPONSE TO COMMENT LETTER E002 RECEIVED FROM UNITED STATES DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE, DATED APRIL 13, 1998

1.4 The biological monitor/authorized biologist shall regularly inspect (a minimum of three times per day) open trenches and test holes. Entrapped tortoises/wildlife will be permitted to move from harm's way or carefully removed from the excavation site by the authorized biologist. A final inspection of trenches and holes hall be conducted by the biological monitor/authorized biologist just prior to backfilling. All test holes shall be immediately capped/sealed upon completion of drilling.

1.5 Inactive burrows that will not undergo damage or destruction from powerline/pipeline/water well construction or road realignment shall be flagged and avoided. Following completion of the individual support facilities, all materials utilized to mark or identify the tortoise burrows shall be promptly removed.

1.6 Any desert tortoise relocated or otherwise removed form areas with mine-related construction/excavation shall be handled in accordance with the procedures described in Guidelines for Handling Desert Tortoises During Construction Projects (DTC 1994, revised 1999). All tortoises shall be translocated the minimum distance practicable (e.g., beyond the fenced project site or construction corridor), within appropriate habitat, to ensure an animal's safety and survival.

1.7 The authorized biologist shall maintain a complete record of every desert tortoise encountered and moved from harm's way during all mine-related efforts. At a minimum, the information shall include: location (written description and map) of the tortoise finding, date and time of observation, along with details of the relocation site; tortoise life history information (i.e., weight, length, width, height, and sex); general condition and health, including any apparent injuries/state of healing, occurrence of bladder voiding upon handling; and diagnostic markings (e.g., identification number or previously marked lateral scute).

1.8 Desert tortoises removed/relocated from the mine site or ancillary areas shall be marked for future identification. An identification number (using the acrylic paint/epoxy technique) will be affixed to the fourth coastal scute (Service 1990b), and a 35 mm photograph (slide) of the carapace, plastron, and fourth left costal scute shall be obtained. No notching or replacement of fluids by injection (i.e., syringe) shall be authorized. Any water basins, bowls, or other containers provided to a tortoise for dehydration shall be promptly removed from the field following

determination by the authorized biologist that adequate fluid replacement has occurred.

1.9 The authorized biologist shall submit an annual report to the Service and BLM by July 1st summarizing results of the clearance surveys, relocation/handling efforts, and any injuries/deaths encountered during mine-related activities or observed along Indian Pass Road (either tortoises or other wildlife). Additionally, the report will include an evaluation of the effectiveness of the avoidance/minimization measures and possible recommendations to further reduce the direct/indirect effects of the mining operations on desert tortoise and it's associated habitat.

1.10 A long-term desert tortoise monitoring program shall be implemented to examine the effects of relocation on displaced and resident tortoises outside the mine's boundaries. If twenty (20) relocatable adult desert tortoises are discovered in the project area, then an equivalent number of suitable animals (optimally possessing a similar sex ratio as the displaced group) will be located outside the fenced mine site and all forty (40) tortoises shall be affixed with radio telemetry. Should fewer than twenty (20) adult desert tortoises be found within the project boundaries, then additional animals from the resident population (in the adjoining undisturbed habitat) will not be required. All the adult tortoises (i.e., 19 or less) discovered within the mine area shall receive radio devices prior to release outside the fenced site. At yearly intervals, the tortoises will be retracked and assessed for some general factors (e.g., current location, movement relative to previous locations, overall health, etc). Glamis will voluntarily facilitate the process by spatially monitoring the animals on a monthly basis from February to November. The program, mutually approved by the Service and BLM, will be conducted over a 3-year period. A report, specifically addressing monitoring and tortoise survivorship, shall be included in the Service's annually received information package (as described in 1.9). Within 60-days following conclusion of the research, a report summarizing any differential mortality, group survivorship, movement patterns, and potential perimeter fence interactions shall be prepared and forwarded to the Service.

1.11 A raven monitoring program shall be conducted over the project's lifetime to determine whether mining actions promote an increase in the relative abundance of ravens, and correspondingly, a higher predation rate of desert tortoise. Five

stations will be established within and around the proposed site (i.e., the center and each corner) and visited on a monthly basis. The program shall commence at least 1-year prior to any project-related surface disturbance. During a standard observation period (15 min), the biological monitor, authorized biologist, FCR, or other Service and BLM approved individual shall record raven numbers and behavior and inspect any nest sites for desert tortoise remains, along with documenting all carcasses found (i.e., number, size, relative time of death, and distance from nest). A report will be submitted to the Service and BLM before July 1st of each year, summarizing the monitoring results. A comprehensive raven management program shall be developed and instituted in the event that significant increases in raven numbers are observed over time.

2. *The following terms and conditions will implement reasonable and prudent measure number 2:*

   2.1 A desert tortoise education program shall be presented to all mine employees conducting activities at the project site, process area, or ancillary facilities. Personnel participation in the program shall precede any initiation of project actions. Following the onset of mining, new employees must formally complete the training prior to working on-site. The BLM-approved tortoise program will contain, at a minimum, the following topics: (1) desert tortoise distribution/occurrence; (2) general behavior and ecology; (3) species' sensitivity to human activities; (4) legal protection; (5) penalties for violation of State or Federal laws; (6) reporting requirements; and (7) project protective measures (including necessary caution/awareness during commutes along Ogilby and Indian Pass roads).

   2.2 A specially designed tortoise fence shall be constructed around the entire mine site. The fence will consist of a non-breachable barrier and support structures. Galvanized hardware cloth of 0.635 cm (0.25 in) diameter shall be attached along the base of the fence and buried a minimum of 30 cm (12 in) underground with an aboveground extension of at least 46 cm (18 in). If burial is not feasible, the bottom one-half of the fence shall be positioned flat on the ground, opposite the project/process area, and appropriately weighted (e.g., large rocks) or secured. Overall, the small 0.635 cm (0.25 in) mesh size was selected to prevent tortoise entry into the mine site and minimize the likelihood of incidental reptile mortality. Fence-

RESPONSE TO COMMENT LETTER E002 RECEIVED FROM UNITED STATES DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE, DATED APRIL 13, 1998

ensnared lizards could attract ravens and potentially/artificially increase predation upon the resident tortoises.

2.3 The fence shall be monitored monthly and corrective action promptly taken to maintain the overall integrity of the tortoise barrier. Following storms, the fence's structure shall be assessed and immediately repaired at all damaged location.

2.4 In washes and other areas susceptible to flash-flooding, "break-away" tortoise fabric may be installed. These segments shall be loosely tied to the fence on higher ground, permitting the fabric to "break-away" in the event of substantial surface flows.

2.5 A tortoise proof fence (as previously described in 2.2) shall be established around the activity area of each water well excavation site. Placement and construction of the fence will be supervised and approved by the biological monitor/authorized biologist. Measures shall be implemented to ensure that proper fence closure occurs at any point of vehicle entry. The desert tortoise fence shall remain in place and will be regularly monitored following completion/installation of the water well.

2.6 Small mesh nets, a solid high density polyethylene/polypropylene cover, or other appropriate screening shall be placed over the leach pad's adjoining ponds (i.e., pregnant and barren solution ponds) to prevent tortoise access and possible injury/mortality. The coverings will be regularly inspected and maintained by the applicant for the duration of the project.

2.7 During the development of all ancillary facilities/features (i.e., powerlines, pipeline, water wells, or road realignments) all vehicles and equipment shall be limited to established roads, designated/marked spur roads, trails, and approved rights-of-way. To the maximum extent practicable, material stockpiling, equipment storage, and vehicle parking shall occur in areas of prior disturbance or generate not greater than 0.4 ha (1 ac) of new surface impacts. The nine cable-pulling stations (1,394 m^2 [15,000 ft^2] each) also shall be maximally confined to locations demonstrating evidence of past surface disturbance. Access to the 92 kV/13.2 kV transmission line/water pipeline shall proceed either from Indian Pass Road directly into the line's designated right-of-way or, for distant locations, along three identified corridors (3 m [10 ft] wide) no greater than 76 m [250 ft] removed from the primary

RESPONSE TO COMMENT LETTER E002 RECEIVED FROM UNITED STATES DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE, DATED APRIL 13, 1998

road. All activities associated with the 5.8 m (3.6 mi) powerline/pipeline shall be limited to the ancillary facilities' 18 m (60 ft) right-of-way. Entries and departures to the water wells (enclosed by an 1.8 m [6 ft] high chain-link fence) shall be confined to a 3 m (10 ft) wide pathway established perpendicular to Indian Pass Road. Similarly, access to each pole on the overbuilt 92 kV/34.5 kV transmission line shall proceed along a 15 m (50 ft) long and 3 m (10 ft) wide flagged spur route which adjoins Sidewinder Road, Ogilby Road, or the nearest existing dirt road. Installation and construction activities immediately surrounding a pole will not produce an area of disturbance greater than 232 m^2 (2,5000 ft^2). Limited grading of eroded portions along the powerline entry route(s) will be allowed for safety reasons. However, only materials derived directly from the roadways may be utilized for fill and no habitat removal shall be authorized. With the exception of the spur roads, the defined pathways to the wells, and the three transmission pole corridors, no other access roads shall be created. Additionally, to minimize surface disturbance tot he surrounding habitat, the authorized biologist shall conspicuously stake, flag, or mark all area boundaries. For all project-related actions, the crushing/removal of perennial vegetation shall be avoided to the maximum extent practicable.

2.8 Any project-related vehicle or equipment operating on the mine's ancillary/non-haul roads or along the Glamis controlled entry road shall not exceed a speed limit of 43 km/h (25 mph). The project proponent will be responsible for enforcing this speed requirement on its employees, contractors, and agents. Access to the mine site and process area will be solely limited to Ogilby and Indian Pass roads. The project's entrance gate shall always remain closed, except when allowing the immediate passage of vehicles. Along the length of Indian Pass Road, 60 km/h (35 mph) signs shall be posted for motorists in both travel directions (i.e., east and west). Additionally, cross-country or off-road travel will not be permitted at any time, except under life threatening/emergency situations.

2.9 Employees shall inspect beneath parked vehicles and equipment prior to traveling. If a desert tortoise is encountered, no action shall be taken until either the animal has safely and voluntarily moved away from the parked vehicle or the authorized biologist has relocated the tortoise out of harm's way.

2.10 Desert tortoise notification and speed limit signs shall be posted and maintained within the project's boundaries. Employee parking areas will have conspicuous

RESPONSE TO COMMENT LETTER E002 RECEIVED FROM UNITED STATES DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE, DATED APRIL 13, 1998

signs alerting personnel tot he present of tortoises. Speed limits shall be posted within the mine site and along all regularly traveled ancillary/non-haul roads.

2.11 *The Service and BLM shall preapprove the type(s) of chemical dust suppressant(s) used on haul/maintenance/access roads (e.g., Indian pass Road) prior to their application.*

2.12 *All trash and food items shall be promptly stored in raven and coyote proof containers and regularly conveyed from the mine site. Project structures/design will minimize the potential for raven nest or perch sites and no mining features (e.g., other buildings, power/water line enhancements, etc), beyond the scope of the currently proposed action, shall be approved or authorized.*

2.13 *No pets shall be permitted at the project site, process area or ancillary facilities, at any time. Furthermore, firearms will be strictly prohibited, except for security personnel.*

2.14 *Road kill found along the mine's primary access way (i.e., Indian Pass Road) shall be promptly removed/buried to reduce the attraction of ravens and other potential tortoise predators t the area. Additionally, no feeding of coyotes, kit foxes, or ravens shall be allowed.*

2.15 *The Service, in conjunction with BLM, shall review and coordinate approval of a reclamation plan that promotes the reestablishment of pre-mining conditions within the project area. Appropriate revegetation techniques (e.g., recontouring, pitting, local native seed source use, plant salvaging, etc.) and monitoring (e.g., established success criteria) will assist in ameliorating large-scale surface disturbance and advancing the restoration (function and structure) of the ecosystem.*

2.16 *A monitoring effort (acceptable tot he Service, BLM, Corps, and CDFG) shall be implemented to assess the potential, indirect project impacts on downstream microphyll woodland/desert tortoise habitat. At a minimum, the plan shall include information on baseline conditions, experimental design, identified/measurable vegetation parameters, sampling times, and statistical*

RESPONSE TO COMMENT LETTER E002 RECEIVED FROM UNITED STATES DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE, DATED APRIL 13, 1998

evaluation, along with contingencies/compensation measures upon detection of significant (e.g., biological, statistical) changes in the targeted community.

2.17 *The proposed placement, installation, and maintenance of big/small game guzzlers (a maximum of three in the general vicinity of the project and one on-site following mine closure) shall be coordinated among the Service, BLM, and CDFG. Guzzler design and construction shall incorporate features that will allow for the repeated safe entry/exit of tortoises.*

2.18 *Upon completion of the Imperial Project, all mine-related materials and vehicles/equipment shall be promptly removed from the site. Machinery and personnel involved with the mine's subsequent reclamation shall only be permitted in the project area during the course of revegetation efforts. Once reclamation measures have been implemented, no associated equipment and supplies will be allowed to remain on-site.*

Response to Comment E002:011: See Response to Comment F002:002.

Response to Comment E002:012: See Response to Comment I013:122.

Response to Comment E002:013: Mitigation Measure 4.1.5-44 states that "Transmission and distribution pole design shall prevent nesting or perching by ravens, a major predator of young desert tortoises. . . ." Principal activities which prevent the perching or nesting of ravens in tortoise habitat are the installation of perch guards on poles and the implementation of an active program of raven nest removal as a part of line maintenance. The implementation of these measures will be added to Mitigation Measure 4.1.5-44.

Revisions to the Final EIS/EIR: The mitigation measure shall be modified as follows:

- 4.1.5-44: Transmission and distribution pole design shall prevent nesting or perching by ravens, a major predator of young desert tortoises (see also Mitigation Measure 4.1.5-54). Applicant shall undertake such measures as the installation of appropriate perch guards and the implementation of a program for the removal of raven nests as a part of line maintenance.

Response to Comment E002:014: The Migratory Bird Treaty Act and its application to the Project are discussed in Section 3.5.1.6. (page 3-41) of the Draft EIS/EIR. As stated on page 3-41 of the

RESPONSE TO COMMENT LETTER E002 RECEIVED FROM UNITED STATES DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE, DATED APRIL 13, 1998

Draft EIS/EIR, provisions of the Migratory Bird Treaty Act (16 USC 701-718h) are applicable to many birds found within the Project Area, specifically activities which repeatedly or negligently fail to prevent migratory bird mortality. Section 4.1.5.3.2. (pages 4-53 through 4-55) of the Draft EIS/EIR discuss the types of impacts from the Project which could occur to birds covered by provisions of the Act, including poisoning by chemicals and electrocution or impact with transmission lines. Mitigation Measure 4.1.5-53 specifies that transmission and distribution lines shall be constructed in accordance with standards outlined in the publication "Suggested Practices for Raptor Protection on Power Lines" (Raptor Research Foundation, Inc., 1996) to prevent the inadvertent electrocution of raptors and other large perching birds. The Project also includes Mitigation Measure 4.1.5-3, which requires covering the process ponds to prevent wildlife, including birds, from entering. Thus, the provisions of the Migratory Bird Treaty Act are already adequately addressed in the EIS/EIR, and impacts on migratory birds were determined to be below the level of significance.

Revisions to the Final EIS/EIR: None.

Response to Comment E002:015: The bottom of the East Pit would generally be flat to slightly sloped, even prior to reclamation; it is the surrounding pit walls which would be steep (see Figure 2.4 of the Draft EIS/EIR. As stated in Section 4.1.5.3.2. (page 4-55) of the Draft EIS/EIR, the remnant East Pit would be barricaded around the rim to discourage pit access by terrestrial species, and the haul roads regraded within the pit such that any wildlife may still use them to exit the residual open pit should they pass beyond the barricade. The 33 acres reclaimed at the bottom of the pit would still serve as habitat to avian species and vegetation.

Revisions to the Final EIS/EIR: None.

Response to Comment E002:016: (See Also Response to General Comment 001.) As stated in Section 2.1.11.2.4. (page 2-41) of the Draft EIS/EIR, "The overbuilt 92 kV/34.5 kV transmission line, owned by the IID, would remain in place. Disturbed areas created by overbuilding the 92 kV/34.5 kV line which would not be used for regular maintenance would be raked shortly after the power line is constructed and naturally revegetated." Most of the reclaimed area would consist of the nominal 50-foot by 50-foot areas of projected surface disturbance around each of the transmission line poles. Due to the small size of each of these disturbed areas, and because the existing vegetation in these areas would typically be damaged but not removed by the brief powerline construction activities, natural recovery processes would restore the vegetation in these areas to approximate pre-Project conditions.

RESPONSE TO COMMENT LETTER E002 RECEIVED FROM UNITED STATES DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE, DATED APRIL 13, 1998

As the IID will build, own and operate the overbuilt 92 kV/34.5 kV transmission line, it is the IID, and not Glamis Imperial, that will be responsible to the BLM for reclamation under the granted transmission line right-of-way. IID has had similar responsibility for building, owning, operating, and successfully reclaiming miles of transmission line right-of-way throughout its service area.

Revisions to the Final EIS/EIR: None.

Response to Comment E002:017: (The Following Response is Also Applicable to Comments E002:018, E002:021, E002:023, E002:027, F001:008, I001:003, I002:008, I002:009, I003:001, I009:014, I009:016, I013:124, I013:127, I013:128, I013:129, I013:131, I013:132, I013:145, I013:146, I013:151, I013:154, I013:155, I013:156, I013:157, I013:158, I013:159, I013:201, I015:024, I024:008, J001:003, J007:003, and N019:003.) There appears to be some confusion between the purpose of the reclamation "test plots" and the revegetation "survey transects." The reclamation "test plots" are intended to test and perfect specific reclamation methods and techniques for use with the Imperial Project; in contrast, the revegetation "survey transects" are intended for use in determining whether or not the bond release criteria for revegetation success has been met. As stated in Section 2.1.11.2.3. (page 2-43) of the Draft EIS/EIR:

> "In order to provide the basis for specific reclamation methods and techniques which would be used at the Project, revegetation test plots would be set up early in the mine life. The objective of the test plot program is to provide long-term plots which would be evaluated throughout the mine life, and to utilize test plot results to modify and continue developing reclamation methods."
>
> "All revegetation treatments would be based on the Project test plots developed for the site-specific conditions of the Project area. Treatment may be the same as have been used elsewhere, such as at American Girl or Picacho Mines, but would be designed for environmental conditions specific to the Project. Ongoing monitoring of Picacho Mine reclamation, and Imperial Project concurrent and interim reclamation, would provide additional information for refining the Project seeding and revegetation plan, which would be updated with new information subject to the concurrence of the BLM and Imperial County, prior to the start of final reclamation and decommissioning of the Project area."

As noted, the intent of the Reclamation Plan is to set up the test plots at an early stage of the mine development and continue to monitor each test plot over the long-term life of the reclamation effort. The proposed locations for both the on-site and off-site, wash and upland, vegetation test plots are

shown in Figure 14 of Appendix A of the Draft EIS/EIR. (Additional details regarding the reclamation "test plots" is presented on pages 53 through 55 of the Reclamation Plan [Appendix A of the Draft EIS/EIR]).

In contrast, the revegetation "survey transects" are specifically intended to determine whether or not the bond release criteria for revegetation success has been met. As stated in Section 2.1.11.4.1. (page 2-48) of the Draft EIS/EIR:

> "To determine if the revegetation efforts are successful, comparisons would be made between revegetated sites and sites not disturbed by mining activities. To ensure that the analysis of the undisturbed vegetative community would be statistically valid to within an 80 percent confidence interval, vegetation parameters for density and diversity of the perennial herbaceous and shrub species would be sampled in washes, slopes and desert pavement areas adjacent to proposed disturbed sites. At the time of sampling for bond release, concurrent and comparable monitoring would be conducted in the same years on undisturbed sites and reclaimed areas within the Project area.
>
> "Separate standards for wash and upland vegetation types would be established. Trees removed due to the construction of the diversion channels would be replaced by transplantation or seedlings at the natural density as indicated by baseline studies of the washes. Standards for wash revegetation would be based on results collected from off-site transects in the washes surrounding the project. Standards for upland revegetation would be based on results from off-site transects on slopes and desert pavement. Glamis Imperial proposes that the standard for the reclaimed surfaces be set at a percentage of density and diversity of selected, similar, adjacent vegetation measured in comparable areas. Reclamation efforts would be considered successful when the results of revegetation monitoring show that there has been an establishment of 30 percent or more of the of vegetation density and 33 percent or more of vegetation diversity of the perennial species in the monitored reclaimed and revegetated areas, as compared to the off-site similar vegetation for two (2) consecutive years. Annual and perennial plant cover (canopy cover) is not proposed as a reclamation standard. However, this important plant parameter would be measured during monitoring to determine the forage yield and relative ecological health of the reclaimed areas."

Additional details regarding the revegetation "survey transects" is presented on pages 65 through 68 of the Reclamation Plan (Appendix A of the Draft EIS/EIR).

RESPONSE TO COMMENT LETTER E002 RECEIVED FROM UNITED STATES DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE, DATED APRIL 13, 1998

As stated on pages 65 and 66 of the Reclamation Plan, the general areas to be surveyed under the Plan of Reclamation "will be [disturbed] slopes and flats within the Project mine and process area and areas outside the Project mine and process area that will not be disturbed by mining . . . . The linear transects will include wash and upland areas from randomly selected points near the Project mine and process area . . . . Similar linear transects will be measured on the reclaimed site using a systematic random location method. An attempt will be made to have approximately the same number of samples on the reclaimed sites as on the adjacent [undisturbed] areas." Because of the desire to have approximately equal numbers of samples on the "reclaimed" sites as the adjacent, comparable, undisturbed, areas, the selection of these "comparable" transects must be based upon the vegetation type of the revegetated area once reclamation/revegetation is complete, or at least well along.

As also indicated in the Reclamation Plan (pages 65 and 66), the sampling/monitoring program uses linear coupled transects, each of which are to be repeatedly conducted in areas which are specifically selected to be generally internally homogeneous (that is, each selected area generally consists of a homogeneous vegetation/habitat type, and has a generally uniform slope/topography, aspect, etc). Each of the linear coupled transects consists of a series of linear plots which are laid end-to-end, starting from a single point and oriented by a single compass direction either parallel to, or across, the "environmental gradient" (such as slope, etc) applicable to the area being sampled. The sampled parameters (vegetative types; percentage density, diversity, and cover; etc.) for each linear plot in each vegetative community are analyzed in the field to ensure that a sufficient number of linear plots are sampled in each transect so that the analyses of the sampled parameters are statistically valid to within an 80-percent confidence interval. Because each area on which a transect is repeatedly conducted is generally homogeneous, and because the sampled parameters are analyzed to ensure that the analysis of each sampled parameters is statistically valid to within an 80-percent confidence interval, it is not necessary that the exact same set of monitoring transects within the undisturbed, adjacent, comparable plant community types be utilized throughout the life of the revegetation success monitoring to ensure a consistent comparison.

As stated in Section 2.1.11.4.1. (page 2-48) of the Draft EIS/EIR, monitoring of the revegetation "survey transects" on both the disturbed and undisturbed upland and wash vegetation areas would be conducted concurrently so that the determination of revegetation success would be based upon data from the comparable areas for the identical time period(s).

Glamis Imperial's Reclamation Plan (Appendix A of the Draft EIS/EIR) is the mitigation measure which must be approved (or required to be revised prior to approval) by the BLM and Imperial

RESPONSE TO COMMENT LETTER E002 RECEIVED FROM UNITED STATES DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE, DATED APRIL 13, 1998

County prior to implementation of the Project. The actual locations of the reclamation "test plots" or revegetation "survey transects" are not relevant to the specificity, or success, of the "mitigation measure."

Although the Reclamation Plan (Appendix A of the Draft EIS/EIR) "implies" that the irrigation to be conducted for revegetation would be terminated prior to the commencement of revegetation success monitoring, this is not specifically stated in the Reclamation Plan. For instance, on page 33 of the Reclamation Plan are the statements that "Routine irrigation of reclaimed areas at other climatically similar mines has proven to be unsuccessful in the long term. Therefore, that approach will not be utilized on the Imperial Project. Instead, initial limited or periodic irrigation is planned only for transplants within the Plan." In discussing the reclamation of wash habitat, the Reclamation Plan (pages 43 through 45) indicates that:

> "... reclamation will include immediate relocation and transplantation of existing wash soils and microphyll habitat shrubs and trees to the diversion channel benches, utilizing the following procedures: . . . Water twice after transplanting to saturate the soil; the first watering will be immediately after transplanting and the second watering will be approximately 3 hours later. Additional periodic watering will be done to ensure transplant success (approximately 5 gallons/plant/watering). Additional watering is expected to occur once per month for approximately two (2) years. No supplemental watering will occur after approximately two (2) years .... Utilizing mine watering equipment, seeded areas will be sprinkled with water once or twice only to encourage germination. No long term watering is planned for the seeded areas."

The same general procedures regarding watering are discussed on page 62 of the Reclamation Plan for transplanting other specimens:

> "Water twice after transplanting to saturate soil; first watering should be immediately after transplant and a second watering about 3 hours later; additional watering should not be required unless there is more than 6 months between the original planting and the next rainfall event. Transplanted trees will require additional periodic watering once a month for approximately two (2) years."

To clarify that revegetation for any area which had received any supplemental watering (such as transplants, including ironwood, or seeded areas, including deer browse) would not be determined successful until such time as the success criteria had been met during two consecutive periods

RESPONSE TO COMMENT LETTER E002 RECEIVED FROM UNITED STATES DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE, DATED APRIL 13, 1998

following the cessation of supplemental watering, Mitigation Measures 4.1.5-13 and 4.1.5-21 will be revised in the Final EIS/EIR to require that this is the case.

As discussed in Response to Comment I002:010, in response to a request for clarification from the BLM, Glamis Imperial concurred that the language in the Reclamation Plan regarding the duration of revegetation monitoring found at the end of the first paragraph of page 68 ("It is also recommended that the monitoring and bond period for revegetation be set at a maximum of five (5) years, or earlier if adequate rains occur and plant germination and growth equal the proposed vegetation success criteria.") was confusing. Glamis Imperial proposed to delete this sentence in the Reclamation Plan and replace it with the following language, which is consistent with the language found in Mitigation Measure 4.1.5-21 in the Draft EIS/EIR: "It is recommended that final bond release shall occur when the vegetation success criteria set forth in the Reclamation Plan have been met and the reestablishment of vegetation is confirmed." The third paragraph of page 68 of the Reclamation Plan still contains the requirement for a minimum of five years post-closure revegetation monitoring, or until the revegetation success criteria is met:

> "Revegetation monitoring will be conducted for a minimum of five (5) years following implementation of the post-closure revegetation activities, but would continue until the revegetation success, as defined in this section of the reclamation plan, has been achieved. At a minimum, monitoring activities will take place during the peak growth and flower time, usually April or May."

Section 2.1.11.2. (page 2-37) of the Draft EIS/EIR states that "Post-closure monitoring of revegetation success is expected to account for an additional five (5) years."

Subsequent to the completion of revegetation (that is, subsequent to the termination of any supplemental watering, as discussed above), both the revegetated (disturbed) and undisturbed areas, and thus the disturbed and undisturbed revegetation survey transects, would be essentially equally adversely effected by drought conditions. As stated in Section 2.1.11.4.1. (page 2-48) of the Draft EIS/EIR, monitoring of the revegetation "survey transects" would be conducted concurrently (that is, at the same time) so that the determination of revegetation success would be based upon data from comparable revegetated (disturbed) and undisturbed areas for the identical time period(s). Because this monitoring of disturbed and undisturbed transects for reclamation success is being conducted concurrently, and because the success criteria for revegetation of the disturbed areas are based upon achieving set percentages of the density and diversity of the perennial native species on undisturbed areas (see below), a drought during the period of monitoring for revegetation success is likely neither

RESPONSE TO COMMENT LETTER E002 RECEIVED FROM UNITED STATES DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE, DATED APRIL 13, 1998

an advantage or disadvantage to the operator in meeting the revegetation criteria. A drought subsequent to the successful completion of revegetation (and therefore bond release) would also affect both the revegetated and undisturbed areas, and would likely result in the types of effects noted on pages 3 and 4 of Attachment B ("Monitoring Results for Fall 1996, Picacho Mine, Imperial County, California") to Appendix A of the Draft EIS/EIR and listed in the comment. However, these effects are the result of the natural periods of very low rainfall conditions, and would not effect the agencies determination of the operator's successful completion of reclamation.

Success monitoring would be conducted for a minimum of five years, not the two years stated in the comment; perennial plant diversity and density would have to exceed the revegetation success criteria for two consecutive years on the monitored survey transects before revegetation would be considered successful and the bond released. As stated in the third paragraph of page 68 of the Reclamation Plan, "Revegetation monitoring will be conducted for a minimum of five (5) years following implementation of the post-closure revegetation activities, but would continue until the revegetation success, as defined in this section of the reclamation plan, has been achieved," not for the two years stated in the comment. However, as stated in Section 2.1.11.4.1. (page 2-48) of the Draft EIS/EIR, "Reclamation efforts would be considered successful when the results of revegetation monitoring show that there has been an establishment of 30 percent or more of the of vegetation density and 33 percent or more of vegetation diversity of the perennial species in the monitored reclaimed and revegetated areas, as compared to the off-site similar vegetation for two (2) consecutive years."

The following table provides information regarding the revegetation monitoring and release periods proposed for the Imperial Project and required for certain locatable mineral projects located in the California Desert Conservation Area. The period requested for Imperial Project revegetation success criteria monitoring (minimum five years, continuing until revegetation success criteria are met) is completely consistent with the success criteria monitoring requirements of these other locatable mineral projects in the California Desert Conservation Area. The requirements for two of these projects are a high of ten years of monitoring, four other projects are required to conduct either five or six years of monitoring, and two projects are required to conduct only three years of monitoring. Requiring success criteria monitoring for a period of longer than five years (unless the success criteria are not met) is not necessary to determine whether reclamation has been successful (see above).

Section 2.1.11.4.1. (page 2-49) of the Draft EIS/EIR states that "In the event of initial failure of the revegetation, Glamis Imperial would consult with the BLM and Imperial County regarding

remediation alternatives and revegetation measures that should be undertaken," which is essentially identical to the language found on page 68 of the Reclamation Plan (Appendix A of the Draft EIS/EIR). The key words in this sentence are "initial failure," which is defined in the Reclamation Plan as failure to meet or exceed the revegetation success criteria following five years of monitoring. Should the reclamation result in "initial failure," revegetation "survey transects" would continue to be required (see above), and the consultation with the BLM and Imperial County would focus on those "remediation alternatives and revegetation measures" which may at that time be available to achieve the required success/release criteria. Although it is not possible at this time to state with certainty what alternatives or measures may be applied at that time in the future, it is likely that the requirement would be for the more effective or greater application of the same measures which had already been applied: transplanting of more specimens, additional soil application, additional seeding, and possibly additional watering.

The following table also lists the revegetation release criteria for density, diversity and cover proposed for the Imperial Project and required of certain locatable mineral projects located in the California Desert Conservation Area. As is the case for the revegetation monitoring and release periods (see above), the revegetation success criteria proposed for Imperial Project are also completely consistent with, if not more stringent than, the revegetation success criteria requirements of these other locatable mineral projects located in the California Desert Conservation Area. Only one project is required to meet a greater density (50 percent) than the general density requirement (30 percent) proposed for the Imperial Project (the Imperial Project also proposes a 100 percent pre-disturbance density for trees in the diversion channels; see Section 2.1.11.4.1. [page 2-48] of the Draft EIS/EIR); the four other projects with density requirements are required to achieve only a 20 or 21 percent density (compared to comparable control areas). No project is required to achieve a greater species diversity than the diversity requirement (33 percent) proposed for the Imperial Project; the four other projects with diversity requirements are required only to achieve a 15 to 30 percent diversity (compared to comparable control areas). [Five of the projects contain a cover requirement of from 15 to 50 percent; two, including the Imperial Project, do not contain a cover requirement (see below).]

Revegetation, Monitoring and Release Criteria for Locatable Mineral Projects in the California Desert Conservation Area				
Project/Reference	Revegetation Criteria			Monitoring and Release Periods
	Density	Diversity	Cover	
Imperial Project (Proposed) Imperial County, California [Imperial Project Draft EIS/EIR November 1997]	30% of perennial species as compared to adjacent control plots of similar vegetation (in diversion channels, also 100% of pre-disturbance natural density of trees)	33% of perennial species as compared to adjacent control plots of similar vegetation	Not proposed	Minimum five years annual monitoring requested. Bond release requested if revegetation criteria is met for two consecutive years. If revegetation criteria is not met after five years, monitoring would continue, and remediation measures would be undertaken.
Castle Mountain Mine San Bernardino County, California [Castle Mountain Mine Expansion Project Draft EIS/EIR March 1997]	6% of perennial species in the control area	4% of perennial species in the control area	Not required	Five-year revegetation goal.
	21% of perennial species in the control area	15% of perennial species in the control area	Not required	Ten-year revegetation goal. Ten years annual monitoring required. Bond release if ten-year revegetation goal is met(?)
Rand Project Kern County, California [Rand Project Final EIS/EIR April 1995]	21% of perennial shrubs and herbaceous vegetation in area prior to disturbance	15% of perennial shrubs and herbaceous vegetation in area prior to disturbance	35% of perennial shrubs and herbaceous vegetation in area prior to disturbance	Six years minimum bi-annual monitoring required. Bond release if revegetation criteria is met. If revegetation criteria is not met after six years, remediation measures would be undertaken.
Oro Cruz Operation of the American Girl Mine Imperial County, California [FEIS November 1994 Oro Cruz POO (CA-067.20)]	50% of similar vegetation in adjacent areas	Not required	50% of similar vegetation in adjacent areas	Ten years annual monitoring required. Bond release if revegetation criteria is met within ten years. If revegetation criteria is not met after ten years, monitoring continues until criteria is met.
Briggs Project Inyo County, California [Briggs Project Final EIS/EIR Volume II May 1995]	20% of perennial and herbaceous vegetation of control plots	15% of perennial and herbaceous vegetation of control plots	15% of perennial and herbaceous vegetation of control plots	Three years minimum annual monitoring required. Bond release if revegetation criteria is met for two consecutive years following last human intervention. If revegetation criteria is not met after five years, remediation measures would be undertaken.
Soledad Mountain Project Kern County, California [Soledad Mountain Project Draft EIS/EIR Volume I May 1997]	20% of perennial vegetation in control plots	30% of perennial vegetation in control plots	35% of perennial vegetation in control plots	Five years minimum annual monitoring required. Bond release if revegetation criteria is met.
Mesquite Mine Imperial County, California [Mesquite Mine Closure and Reclamation Plan March 1997 (Unapproved)]	Not required	Not required	Not required	Five years minimum monitoring of surface erosion and revegetated areas to evaluate reclamation success relative to revegetation for the mine site as a whole proposed.
Picacho Mine (private land only) Imperial County, California [Monitoring Results for Fall 1996, Picacho Mine]	Not required	Not required	33% of vegetative cover in control plots	Five years annual monitoring required(?)

RESPONSE TO COMMENT LETTER E002 RECEIVED FROM UNITED STATES DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE, DATED APRIL 13, 1998

The comment that the density and diversity revegetation success criteria should count only "native" species is valid, and Mitigation Measures 4.1.5-13 and 4.1.5-21 will be revised in the Final EIS/EIR to require that only native vegetation will be considered for determining revegetation success.

While Montana may have specific requirements for reclamation and/or revegetation for a specific project which are "higher" than those proposed for the Imperial Project or applied to other project in the CDCA, these requirements are most certainly based on the site-specific or area-specific factors effecting reasonable reclamation: precipitation, climate, temperature, elevation, latitude, growing season duration, and other factors relating to the specific site or area. It is not appropriate to compare reclamation conditions in Montana with those in the Colorado Desert of California.

Section 4.1.5.1. (page 4-46) of the Draft EIS/EIR presents the assessment guidelines and significance criteria for biological resources. As stated on this page:

"Based upon NEPA and CEQA guidelines, and commonly accepted criteria, a project would normally be considered to have a significant effect on biological resources if it could:

"• Substantially affect a rare or endangered species of animal or plant or the habitat of the species;

"• Interfere substantially with the movement of any resident or migratory fish or wildlife species; or

"• Substantially diminish habitat for fish, wildlife, or plants."

Based on the findings of the Supplement to the Draft EIS/EIR (March 1999), a fourth significance criterion was added to the Final EIS/EIR (See Section 1, above), as follows:

"• Result in a net loss of any "endangered, rare or threatened" plant or animal species or its habitat."

Based upon the these criteria, "successful" revegetation of 33 percent density and 30 percent diversity, even at the time of bond release, would still result in impacts to general wildlife and habitat below the level of significance under NEPA. However, the mandatory findings of significance prescribed by CEQA guidelines require that any net loss of "endangered, rare or threatened species" restricts the range of these species and must be considered significant under CEQA. As such, the impact of the loss of this habitat on desert tortoise, Gila woodpecker, and peregrine falcon is considered significant under CEQA and no level of reclamation would change this finding.

RESPONSE TO COMMENT LETTER E002 RECEIVED FROM UNITED STATES DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE, DATED APRIL 13, 1998

As stated in Section 2.1.11.2.2. (page 2-39) of the Draft EIS/EIR, "Stockpiled soil material would be distributed on the tops and the accessible level portions of the waste rock stockpile prior to broadcast seeding with the proposed seed mixtures." Soil would not be distributed on steep slopes as a part of the Reclamation Plan. The potential for erosion from steep Project slopes was discussed in Section 4.1.2.2. (page 4-6) of the Draft EIS/EIR, which concluded that the Project would not result in substantial erosion and the impacts of erosion would not be significant.

The Baseline Vegetation Survey (Appendix F of the Draft EIS/EIR) surveyed for all perennial species; as stated on page 5, "Perennial shrub and tree densities were calculated by adding up the shrub/tree counts in each plot, averaging this number for all plots in a transect, and then adjusting this average per plot to a hectare and acre basis. Diversity was the total number of perennial plant species (shrubs, cactus, and trees) recorded in the plots along transects."

As stated in Section 2.1.11.4.1. (page 2-24) of the Draft EIS/EIR, the Reclamation Plan proposes surveys for vegetation density, diversity, and cover, but only the density and diversity of the perennial species would be used for determining revegetation success:

> "Reclamation efforts would be considered successful when the results of revegetation monitoring show that there has been an establishment of 30 percent or more of the of vegetation density and 33 percent or more of vegetation diversity of the perennial species in the monitored reclaimed and revegetated areas, as compared to the off-site similar vegetation for two (2) consecutive years. Annual and perennial plant cover (canopy cover) is not proposed as a reclamation standard. However, this important plant parameter would be measured during monitoring to determine the forage yield and relative ecological health of the reclaimed areas." (*emphasis added*)

As also stated in the Reclamation Plan (page 68), "Annual and perennial plant cover (canopy cover) is not proposed as a reclamation standard. However, this important plant parameter will be measured during monitoring to determine the forage yield and relative ecological health of the reclaimed areas." Plant cover is not included in the Imperial Project revegetation success criteria because it is not indicative of a plant community's ability to be self-sustaining, which is a primary goal of the Reclamation Plan (see Section 2.1.11.2. [page 2-34] of the Draft EIS/EIR). Plant cover is also a parameter which is highly variable from year to year and highly dependent on the time or year, being principally related to the recent rainfall quantity and duration (for example, see Attachment A and Attachment B to the Reclamation Plan, Appendix A of the Draft EIS/EIR). Cover is also a more subjective measurement, is subject to variations among field researchers, and essentially requires the

RESPONSE TO COMMENT LETTER E002 RECEIVED FROM UNITED STATES DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE, DATED APRIL 13, 1998

commingling of perennial and annual species survey data. However, because cover is a subjective yardstick for vegetative community and ecological "health," as well as forage yield (see above), the Reclamation Plan proposes that plant cover be determined during the surveys.

The comment that Mitigation Measure 4.1.5-21 incorrectly describes plant cover and density, rather than diversity and density, as the success criteria, is correct, and the Final EIS/EIR will reflect this correction.

The Reclamation Plan provides for different reclamation and revegetation of the two vegetation community/wildlife habitat types (the tree/shrub [wash] vegetation community [microphyll woodland habitat], and the shrub/scrub [upland] vegetation community [or desert scrub habitat]). The Reclamation Plan (page 53 of Appendix A of the Draft EIS/EIR) states that "one of the reclamation plan primary objectives is the reestablishment of microphyll woodland habitat along the channels which divert the throughgoing washes." This section of the Reclamation Plan also states:

> "Wash habitat reclamation will occur concurrently with diversion channel construction, principally by direct transplanting existing wash trees and shrubs along the slopes and banks of the permanent wash diversion channels. Additional reclamation will include planting young ironwood and palo verde trees or seedlings, and seeding the banks and slopes of the channels with a mix of seeds representative of the existing microphyll woodland vegetation. In addition, it is expected that the bottoms of these stream channels will quickly reflect the existing washes in the area as a result of the natural movement of sediment and seed source through the channel during flow events."

In addition, existing wash soils would be concurrently transferred from washes to be disturbed to diversion channel banks and benches (Reclamation Plan, page 42).

The Reclamation Plan (Appendix A of the Draft EIS/EIR) also describes that reclamation/revegetation of the shrub/scrub [upland] vegetation community [or desert scrub habitat] would consist of rough grading (to blend the top edges and crests of the waste rock stockpiles and the heap and rip the hard-packed surfaces left from vehicle traffic and dozing) [page 52]; fine grading (principally construction of the "catchment basins") [page 52]; soil reapplication [page 55]; seeding (broadcast by hand or rotary spreader) using locally collected seeds [page 60]; and transplanting into the catchment basins ocotillo, barrel cactus and species of cholla salvaged from the disturbed areas [page 26].

RESPONSE TO COMMENT LETTER E002 RECEIVED FROM UNITED STATES DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE, DATED APRIL 13, 1998

Each vegetation type has already been quantitatively assessed for its "current" level of perennial species density and diversity (see Appendix F and Appendix H of the Draft EIS/EIR for the results of the surveys conducted for the shrub/scrub [upland] vegetation community [or desert scrub habitat] and the tree/shrub [wash] vegetation community [microphyll woodland habitat], respectively), although revegetation success for all but the wash/microphyll trees would be measured against contemporaneously measured density and diversity values for undisturbed comparable vegetation areas located adjacent to the Project mine and process area (see above).

As specifically stated in the Reclamation Plan (page 55):

> "Glamis Imperial has instituted a seed collection program that will be conducted throughout the life of the Project. The resultant seed bank will consist of a wide variety of seed from upland and wash species. This seed mix will be utilized on all areas requiring revegetation. It is expected that seeds from native species will germinate and grow in those situations where the plants are adapted. These seeds have a natural genetic variability that promotes adaptation to a typical situation. This approach results in natural appearing vegetation which is self sustaining."

Revegetation completed at the Picacho Mine has shown that selective seeding does not provide any advantage over general seeding over the entire reclaimed area, since only those plants that are suited to the individual locations, including slope and aspect factors, are successful (Personal Communication, Samuel A. Bamberg, Ph.D., Bamberg and Associates, October 20, 1998). Thus, one seed mix (see pages 26 through 29 of the Reclamation Plan) is proposed for all of the seeding over the areas disturbed by the Imperial Project. However, as discussed above, different species would be transplanted into the shrub/scrub [upland] vegetation community [or desert scrub habitat] and the tree/shrub [wash] vegetation community [microphyll woodland habitat]. Further, as stated above, the revegetation success criteria are specific to each of the vegetation types.

As stated on page 5 of the Imperial Project Reclamation Plan (Introduction):

> "The reclamation techniques and methods in this Reclamation Plan are based on successful revegetation programs at Glamis Imperial's sister mine, Chemgold's Picacho Mine, and other nearby mines in this area of the California Desert. Resultant revegetation treatments may be the same as have been used at Picacho and American Girl Mines, but will be designed for environmental conditions specific to the Project. These methods are appropriate to the dry climate and harsh environmental factors at the proposed mine site. These methods use

topographic grading and the seeding or transplanting of local, native species to reestablish a productive ecosystem of plants and animals. As necessary, the seeding and revegetation plan may be refined over a period of time as further revegetation tests dictate. The Plan can be updated with BLM assistance, and updates will be reviewed and approved by BLM and Imperial County prior to final decommissioning and reclamation of the Project area."

Thus, the vegetation/habitat differences between the Picacho Mine and the Imperial Project are not relevant to the issues of design or success of the Imperial Project Reclamation Plan, as the Imperial Project Reclamation Plan will be specifically tailored to the Imperial Project through the monitoring of the reclamation test plots and concurrent reclamation.

Revisions to the Final EIS/EIR: Mitigation Measures 4.1.5-13 and 4.1.5-21 are both revised to make clear that revegetation of any area which had received any supplemental watering would not be determined successful until such time as the success criteria had been met during two consecutive periods following the cessation of supplemental watering:

"‣ 4.1.5-13: Applicant shall implement the Project Reclamation Plan in conformance with the requirements of the BLM and Imperial County. The Reclamation Plan shall include a program for revegetation of the permanent diversion channels, including the planting of seedlings of young ironwood and palo verde at a density approximating that of the displaced washes and seeding of the pre-Project wash habitat (see also Mitigation Measure 4.1.5-17). The transplanted seedlings shall be protected from browsing or trampling by wire cages for the first two (2) years and from excessive sun by shade material, if necessary, or native nurse plants, if available and necessary, to facilitate transplant success.

Microphyll woodland vegetation within the permanent diversion channels shall be established during early mining operations and managed and monitored throughout the life of the Project. Applicant shall conduct annual transect surveys in the spring season of the diversion channels for the purpose of determining revegetation success. The surveys shall document the diversity, density, and cover of the native vegetation directly associated with the washes, and shall include observations regarding the general "health" of the vegetation. An annual report of the transect surveys shall be prepared and submitted to the BLM, Imperial County and CDFG in a form acceptable to the BLM and Imperial County. Should the surveys indicate that the revegetation of the diversion channels may not meet the standards required by the approved Reclamation Plan

RESPONSE TO COMMENT LETTER E002 RECEIVED FROM UNITED STATES DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE, DATED APRIL 13, 1998

following the completion of any supplemental water application for revegetation, the BLM and Imperial County may require appropriate additional revegetation measures to be implemented by the Applicant."

"▸ 4.1.5-21: Applicant shall implement the revegetation program contained in the Project Reclamation Plan approved by Imperial County and the BLM. The revegetation program shall include a test plot program, surface contouring and shaping, salvage and distribution of stockpiled soils, collection of a seedbank of seeds from within and in the vicinity of the Project area, preparation of seedbeds, seeding with approved mixtures of native plant species endemic to the area, planting of the plants salvaged from the area prior to mine construction, monitoring for invasion of noxious weeds or salt cedar, and vegetation success monitoring. The standards for revegetation success shall be specific to each vegetation type and based on reasonably achievable results that shall provide a plant ~~cover~~ diversity and density of native vegetation sufficient to support long-term revegetation. Final bond release shall occur when the vegetation success criteria set forth in the Reclamation Plan have been met following the completion of any supplemental water application for revegetation and the reestablishment of vegetation is confirmed."

Response to Comment E002:018: See Response to Comment E002:017.

Response to Comment E002:019: (The Following Response is Also Applicable to Comments E001:017, I009:025, J010:007, and J010:008 .) Fairy duster (*Calliandra eriophylla*) and winged cryptantha (*Cryptantha holoptera*) are identified as "Special Status Species" in Section 3.5.5.1. These two species are identified as "Special Status Species" in Section 3.5.5.1. (Table 3.9) of the Draft EIS/EIR because they appear on the California Native Plant Society (CNPS) list of sensitive species and occur within the Project area. As stated in Section 3.5.1.4. (page 3-40) of the Draft EIS/EIR, CNPS listings do not afford legal status or protection for the species, but the lists are utilized by agencies in their planning processes for activities which may impact the species or habitat. The purpose for adding fairy duster and winged cryptantha seeds to the revegetation seed mix is to enhance the recovery of these species in those surface areas impacted by the Project. The mitigation measures proposed in the Draft EIS/EIR to minimize impacts on these species will not reduce the disturbance of the plants during the construction phase but are designed to enhance the recovery of the plant populations and their habitats during reclamation.

As noted in Section 3.5.5.2. (pages 3-56 and 3-57) of the Draft EIS/EIR, the fairy duster and winged cryptantha were both common throughout the wash systems within the Project mine and process

RESPONSE TO COMMENT LETTER E002 RECEIVED FROM UNITED STATES DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE, DATED APRIL 13, 1998

area, as identified during the botanical survey. Since both of these special status species already contribute to the "pre-mine ecosystem attributes," it is both reasonable and prudent to include seeds of these special status species in the revegetation seed mix. As stated in Mitigation Measure 4.1.5-17, "Recovery of these two (2) species shall be considered successful when species density meets or exceeds the criterion set forth in the Approved Reclamation Plan." Plant density equal to that determined from undisturbed wash habitats would be anticipated.

As stated in Section 4.1.5.2.2. (pages 4-49 and 4-50) of the Draft EIS/EIR, individual fairy duster plants would be destroyed and their seed bank potentially lost (i.e., the dormant seeds left by previous years' plants would be buried) as a result of the proposed grading and development activities within the Project mine and process area. Based on the botanical surveys reported in Section 3.5.5.2. (pages 3-56 and 3-57) of the Draft EIS/EIR, an estimated 500+ individual plants occur within the Project mine and process area. Since the fairy duster is associated with all of the wash systems, and approximately 63 percent of the wash habitat (87 of 139 acres) within the Project mine and process area would be disturbed as a result of Project construction, approximately 63 percent of these fairy duster plants could be expected to be lost.

As stated in Section 3.5.5.2. (page 3-57) of the Draft EIS/EIR, fewer than 60 individual winged cryptantha plants were observed within the Project mine and process area, although it was assumed that the actual number was higher. As stated in Section 4.1.5.2.3. (page 4-50) of the Draft EIS/EIR, individual plants would also be destroyed and their localized seed bank and habitat within the Project mine and process area potentially lost as a result of surface disturbance during mine construction. Since the winged cryptantha is also associated with the wash systems, approximately 63 percent of the individual fairy duster plants could be expected to be lost (although because of its association with the larger washes, and the Project design to selectively avoid disturbance to the larger washes, a relatively lower percentage of the winged cryptantha within the Project mine and process area would likely be disturbed).

As stated in Section 2.1.11.1. (page 2-33) of the Draft EIS/EIR, seeds of the fairy duster and winged cryptantha, collected from the Project area, would be added to the seed mix for use during reseeding during reclamation activities, thus replacing the communities lost during Project construction. Winged cryptantha is an annual that has the potential to reach maximum size during the growing season following seeding. Fairy duster is a shrub that may require several years post-seeding to attain its maximum size. Seeds would be distributed upon reclaimed drainages, as they represent the appropriate microhabitat for both species.

RESPONSE TO COMMENT LETTER E002 RECEIVED FROM UNITED STATES DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE, DATED APRIL 13, 1998

Revisions to the Final EIS/EIR: None.

Response to Comment E002:020: (The Following Response is Also Applicable to Comments I009:014, I013:135, I013:136, I013:137, I013:160, I013:161, I013:169, I019:006, J011:002, J022:007, and J022:011.) The Imperial Project proposes a revegetation success criteria for the diversion channels of 100 percent of the pre-disturbance density for trees in the washes which are to be disturbed and replaced by the diversion channels (see Section 2.1.11.4.1. [page 2-48] of the Draft EIS/EIR). The pre-disturbance density for trees in the washes which are to be disturbed and replaced by the diversion channels is used because there are no trees in the areas where the diversion channels will be constructed. Based upon the wash vegetation survey conducted for the Project mine and process area, there are a total of 622 trees in the washes which are to be disturbed and replaced by the diversion channels (see Table 4.12 of Appendix G to the Draft EIS/EIR). An inventory of all of the trees within the Project mine and process area has not been developed, but this is not relevant to the question of salvaged trees for transplanting since the entire Project mine and process area would not be disturbed. Based again on the inventory presented in Table 4.12 of Appendix G to the Draft EIS/EIR, approximately 10 to 20 percent of the trees within the washes are of a size (less than 8 feet in height) which can be transplanted. Thus, approximately 93 trees may be salvaged for transplanting from the washes which are to be disturbed and replaced by the diversion, leaving approximately 529 trees to be raised as seedlings and transplanted to the diversion channels.

As stated in the Reclamation Plan (page 42), salvaged trees (and certain other wash vegetation) would be transplanted directly onto the banks of the new diversion channels without storage to increase the likelihood of transplant success. However, the success of the individual transplantings is not discussed in the Reclamation Plan because final density of the transplanted specimens is the only measure used to determine reclamation success, and it is understood that 100 percent survival would not occur. Based upon the revegetation and transplantation program conducted at the Picacho Mine, survival rates around 78 percent may be expected. However, to complete Table 7 of the Reclamation Plan and calculate a total number of trees which would be planted and watered, a survival rate of only 30 percent (mortality rate of 70 percent) was assumed for either or both the salvaged and transplanted seedlings. Thus, a total of 1,056 transplanted trees are assumed, and a total of up to 963 trees would need to be raised as seedlings and transplanted to the diversion channels over the life of the Project. The intent of the Reclamation Plan is not to originally plant trees at a density of 1.3 to 1.7 times the pre-disturbance density for trees in the washes which are to be disturbed and replaced by the diversion channels, but to replace those transplanted salvaged trees and tree seedlings which do not survive.

RESPONSE TO COMMENT LETTER E002 RECEIVED FROM UNITED STATES DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE, DATED APRIL 13, 1998

The Reclamation Plan does propose the transplanting of salvaged and container-grown trees along the banks of the wash areas with supplemental hand watering in the summer months for several years. Page 6 of Attachment B of the Reclamation Plan (Appendix A of the Draft EIS/EIR) describes the planting methods employed for ironwood seedlings at the Picacho Mine, and these methods would likely be duplicated at the Imperial Project. The seedlings are contained in tubes approximately 2 inches in diameter and with a root length for the seedling of about six inches. The excavated holes are about 1.5 cubic feet in volume.

The comment misquotes the Draft EIS/EIR regarding the timing for "young ironwood and palo verde trees or seedlings . . . to reestablish microphyll woodland habitat similar to that removed by excavation of the original stream channels." The actual quote, found in Section 2.1.9.7. (page 2-28) of the Draft EIS/EIR, states that "The channel slopes and banks would be planted with wash vegetation directly transplanted from other disturbed drainages and/or selectively planted with young ironwood and palo verde trees or seedlings to begin to reestablish microphyll woodland habitat similar to that removed by excavation of the original stream channel." (*emphasis added*) As stated in Section 4.1.5.3.1. (page 4-51) of the Draft EIS/EIR:

> "Based on the work done at the Picacho Mine, it is apparent that microphyll woodland vegetation can be reestablished (Bamberg and Hanne 1997; see also Attachment B to Appendix A, Reclamation Plan). The estimated time for recovery of a microphyll woodland, that is, for establishment of trees and shrubs to a density approaching the natural wash vegetation, is estimated at five (5) years; for recovery to a condition approaching maturity is estimated at twenty (20) years. Plant succession and changes in structure would continue for approximately 50 years for trees (up to 30 feet). The expected survival of ironwood seedling transplants after one (1) year, based on Picacho experience (December 1995 to December 1996), is approximately 80 percent (Bamberg and Hanne 1997). Studies are underway on ironwood propagation at the Picacho Mine working in conjunction with the Desert Legume Program at the University of Arizona. Other typical wash plant species (palo verde, brittle bush, saltbush, sweetbush, desert mallow, wire lettuce, and annual grasses and forbs) have been successfully grown from seed collected in washes (Bamberg 1997b; see Appendix G)."

Both Mitigation Measure 4.1.5-8 and Mitigation Measure 4.1.5-10 specify that the supplemental watering be decreased over time to allow the plants to acclimate to natural moisture conditions, as highlighted below:

RESPONSE TO COMMENT LETTER E002 RECEIVED FROM UNITED STATES DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE, DATED APRIL 13, 1998

"▸ 4.1.5-8: Applicant shall provide periodic slug irrigation to enhance the establishment of ironwood and deer browse vegetation within the surface drainage identified by Mitigation Measure 4.1.5-7 to enhance the quality of habitat and provide established deer browse which would be immediately available at the end of the active life of the mine. Vegetation selected for enhanced deer browse establishment shall be comprised of species known to occur in the Project area. The irrigation shall be reduced and then ceased once the vegetation is established. The composition of the seed mix and the design of the vegetation enhancement measures shall be submitted to the CDFG for approval prior to implementation."

"▸ 4.1.5-10: Applicant shall provide periodic slug irrigation to enhance the establishment of ironwood and deer browse vegetation along the western slopes and banks of the approximately 3,000-foot section of the existing ephemeral stream channel immediately adjacent to, but outside of, the east-southeast boundary of the Project mine and process area. Vegetation selected for enhanced deer browse establishment shall be comprised of species known to occur in the Project area. Supplemental watering shall only be conducted for the first few years to allow the plants to become established. Water shall be reduced over a period of time to enable the plants to acclimate to natural moisture conditions. The composition of the seed mix and the design of the vegetation enhancement measures shall be submitted to and approved by the CDFG prior to implementation."

Revisions to the Final EIS/EIR: None.

Response to Comment E002:021: See Response to Comment E002:017.

Response to Comment E002:022: (The Following Response is Also Applicable to Comments I013:126, I013:138, I013:139, I013:160, I013:161, I013:203, I019:006, J022:007, and J029:004.) Due to the sparsity of the listed cacti species and ocotillo within the Project mine and process area (see Table 4-4 of Appendix F of the Draft EIS/EIR and Tables 4-2 through 4-10 of Appendix G of the Draft EIS/EIR), any cacti species and ocotillo acceptable for transplantation would be placed into catchment basins at densities determined by the available specimens. Transplanting would occur as described on pages 60 and 61 of the Reclamation Plan:

"Selected cacti species which occur within the disturbed areas of the Project will be transplanted to a holding area south of the of the leach pad. The holding area will serve as

> a temporary holding for final reclamation placement (see Figure 14). The holding area will be sized to hold approximately 250 transplant specimens. The area will be prepared using salvaged soil and will be watered as necessary . . . . Immediately transport to the plot for replanting preferably within six hours but transporting should be done the same day as excavation. Cactus and ocotillo can withstand some desiccation and may require hardening." Cactus and ocotillo can withstand some desiccation and may require hardening."

As shown in the Table 5 of the Reclamation Plan (page 63) and Table 2.4 of the Draft EIS/EIR, transplanting from storage would occur from October through December. The procedures for transplanting all plants are outlined in the Reclamation Plan at page 61. Since the transplanting of salvaged shrubs and/or cacti in and out of a holding area decreases the likelihood of survival of each individual specimen subjected to multiple transplants, the Reclamation Plan (page 42) proposes to transplant salvaged trees and other wash vegetation directly into new diversion channels without storage to increase the likelihood of transplant success: "Construction of all diversion channels will include wash habitat reclamation. This reclamation will include immediate relocation and transplantation of existing wash soils and microphyll habitat shrubs and trees to the diversion channel benches, utilizing the following procedures . . . ."

The statement on page 18 of Appendix F regarding no watering ("Reclamation of the area can be accomplished [with methods which] include recontouring for moisture enhancement, no irrigation, and revegetation using native plant species from seed") is true only for the upland area plantings. As stated in several areas in the Reclamation Plan (e.g., page 42 regarding the microphyll habitat shrubs and trees to the diversion channel benches and page 61 regarding the "catchment" basins) specimens transplanted to these areas would be watered on a variable scheduled; "Transplanted trees will require additional periodic watering once a month for approximately two (2) years," although "No supplemental watering will occur after approximately two (2) years." Although not identical to the Castle Mountain Mine revegetation watering schedule, the proposed Imperial Project Reclamation Plan watering schedule ("Water twice after transplanting to saturate the soil; the first watering will be immediately after transplanting and the second watering will be approximately 3 hours later. Additional periodic watering will be done to ensure transplant success (approximately 5 gallons/plant/watering) is very similar. The 78 percent ironwood transplant survival percentage reported in Attachment B to the Reclamation Plan utilizes these watering techniques, although not usually on trees of the largest size proposed for transplanting for the Imperial Project. The Reclamation Plan does not state that a high percentage of salvaged trees survive multiple transplanting; one of the reasons that the Reclamation Plan proposes to transplant salvaged trees and other wash vegetation directly into new diversion channels without storage is to increase the

RESPONSE TO COMMENT LETTER E002 RECEIVED FROM UNITED STATES DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE, DATED APRIL 13, 1998

likelihood of transplant success. The CDFG study is not applicable to the Imperial Project Reclamation Plan since it discussed the success rates for transplanting rare, threatened, and endangered species; none of these species will be transplanted for the Imperial Project.

Revisions to the Final EIS/EIR: None.

Response to Comment E002:023: See Response to Comment E002:017.

Response to Comment E002:024: (The Following Response is Also Applicable to Comments E002:026, I013:124, I013:153, J022:007, J029:004.) Comment noted. As stated in the Reclamation Plan (Section 6.6, page 56), and summarized in Section 2.1.11.3.6. (pages 2-44 and 2-45) of the Draft EIS/EIR:

> "Suitable locations in the Project area that have abundant seeds of several plant species that grow in relatively undisturbed vegetation will be determined by inspection. This source of locally-collected seed in surface soils typically will contain viable seeds from up to twenty (20) species of native perennial shrubs, perennial forbs, and annuals."

Mitigation Measure 4.1.5-21 stipulates that the revegetation program include collection of a seedbank of seeds from within and in the vicinity of the Project area. However, seeds must be collected over a wide area so as not to deplete natural seed sources.

As defined in the Reclamation Plan (Table 5, page 63) and Section 2.1.11.3.7. (pages 2-45 and 2-46) of the Draft EIS/EIR, seeding would occur in the months of March through April and September through November. As stated in this section of the Draft EIS/EIR (page 2-46):

> "By sowing seed and planting in the fall/winter and utilizing the available soil moisture accumulated during winter, growth would be encouraged for most seeds in the seed mix of endemic species. Two kinds of germination are common: (1) fall or winter annuals and shrubs; and (2) spring or early summer germinators, generally shrubs and trees. Some native plant seed have been observed to germinate at any time of year after a substantial rain. Reclamation has a better chance for success in years with average and above-average precipitation, especially if adequate moisture is available during the November through April time period."

RESPONSE TO COMMENT LETTER E002 RECEIVED FROM UNITED STATES DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE, DATED APRIL 13, 1998

Sown but non-germinated seeds would remain dormant until adequate moisture was available. During many years, the spring rains provide adequate moisture for successful germination and seeding of some plants. While spring may not be the optimum time to apply seeds, if the amount of seed material is plentiful, spring sowing can be utilized.

All seeds do not need to be collected directly from plants (although some will) or stratified because, as stated on page 55 of the Reclamation Plan (Appendix A of the Draft EIS/EIR), the collected "seed mix will be utilized on all areas requiring revegetation. It is expected that seeds from native species will germinate and grow in those situations where the plants are adapted." Further, seeds do not need to be cleaned and tested for viability because, as stated on page 59 of the Reclamation Plan (Appendix A of the Draft EIS/EIR), "It is not necessary that all seeds of all plants species survive in order to establish good germination, vegetative growth, and productivity during reclamation."

As stated on page 59 of the Reclamation Plan (Appendix A of the Draft EIS/EIR):

> "Based on seed bank storage experience at Picacho Mine, most of the seed will remain viable during the short period of time that the seed is stored, generally from a few days up to several years. Seeds of some desert plants are known to remain viable for long periods of time (decades) under favorable conditions. Seeds [which are collected] are dried, fumigated, and stored in plastic containers. Certain seeds, such as ironwood are frozen to prevent insect infestation."

Revisions to the Final EIS/EIR: None.

Response to Comment E002:025: There are few, if any, soils in the upland areas which can be salvaged for use in reclamation. As described on page 13 of Appendix E (Soil Resource Evaluation for Imperial Project) of Appendix A (Reclamation Plan) of the Draft EIS/EIR, the vast majority (95 percent) of the Project area consist of soils on the old weathered piedmont alluvial flats and upland slopes between drainages. These soils are shallow to very shallow, with a characteristic rock/pebble surface underlain by vesicular and saline subsoils. Appendix E to Appendix A of the Draft EIS/EIR states that these soils are limited as a growth media or seed source for reclamation due to the strongly saline subsoil, alkali conditions, and the gravelly or bouldery textures, and recommends that they not be salvaged, except in conjunction with the narrow drainages.

Mitigation Measure 4.1.2-2 states that: "Soils shall be salvaged from all areas where sufficient soil development is noted in conformance with the approved Reclamation Plan." Section 2.1.11.3.4.

RESPONSE TO COMMENT LETTER E002 RECEIVED FROM UNITED STATES DEPARTMENT OF THE INTERIOR, FISH AND WILDLIFE SERVICE, DATED APRIL 13, 1998

(page 2-44) of the Draft EIS/EIR notes that: "Revegetation experience at the Picacho Mine indicates that the neutralized leached ore on the heap is excellent in-place growth media. Based on this experience, little or no soil is needed on the leach pad to achieve revegetation success. With that in mind, the remaining stockpiled soil would be used as needed to reclaim waste rock stockpiles, haul roads and ancillary facilities areas."

Revisions to Final EIS/EIR: None.

Response to Comment E002:026: See Response to Comment E002:024.

Response to Comment E002:027: See Response to Comment E002:017.

UNITED STATES MARINE CORPS
MARINE CORPS AIR STATION
BOX 99100
YUMA, ARIZONA 85369-9100

E003

11000 IN REPLY REFER TO:
3AQ/IMPMINE
January 5, 1998

Bureau of Land Management
Attn: Douglas Rosnoli
1661 South 4th Street
El Centro, CA 92243

Gentlemen:

The DRAFT Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the Imperial Project has been reviewed at this Air Station. The attached sheet contains our comments. We thank you for giving us the opportunity to comment and desire to continue being kept informed of the progress of this project.

If there are any questions concerning this input or for further review of project reports, please feel free to contact me at (520) 341-2272/2103. My fax is (520) 341-3259 and E-MAIL address is manfredit@yuma.usmc.mil. The mailing address is:

Community Planning and Liaison Office
Box 99106
Yuma AZ 85369-9106

Sincerely,

T. A. MANFREDI
Community Planner
By direction of the
Commanding Officer

Enclosure

MCAS YUMA COMMENTS ON
IMPERIAL PROJECT DRAFT EIS/EIR

1. Pg S-54, 4.1.7-5, line four. Correct title of Marine Corps
001 Air Station, Yuma (MCAS YUMA) and throughout remainder of EIS/EIR.

002 2. Pg 2-21, 2.1.9.3.1, Electrical Power, first paragraph, last line.

- What are the "Special devices" to be installed?

- At a February 14, 1996 meeting between Major Wilson (Marine Aviation Weapons & Tactics Squadron-1), Mr. T. A. Manfredi (MCAS Yuma) and Mr. S. Baumann (Chemgold, Inc.); it was agreed that marking each transmission pole with a red light was economically "doable" and preferred for aviation safety reasons. The DRAFT EIS/EIR says that the transmission line will be marked with special devices "...where the direction that the transmission line changes...". This new transmission line is perpendicular to the path of flight of the low flying aircraft transitioning through the area. Therefore it is the position of the Air Station that for aviation safety reasons, every other pole must be marked where the poles are spread apart or every third pole where the poles are closer together.

003 3. Pg 4-88, Lighting, second paragraph. VFR-299 was not established by the U.S. Marine Corps. It was established by the U.S. Air Force and is controlled at March AFB, California.

004 4. Pg 4-100, 4.1.7-5. VFR-299 is controlled by the USAF at March AFB and they also need to be contacted.

005 5. Pg 5-8, 5.2.4.2, Other Military Uses. Personal communication between T.A. Manfredi (MCAS Yuma) and Mr. Kevin McArthur (Chemgold, Inc.) occurred on 6 June 1995, not 2 June 1995.

Enclosure (1)

RESPONSE TO COMMENT LETTER E003 RECEIVED FROM T. A. MANFREDI, COMMUNITY PLANNER, UNITED STATES MARINE CORPS AIR STATION, YUMA, DATED JANUARY 5, 1998

Response to Comment E003:001: (See Also Response to Comment E003:004.) Comment noted. The requested changes will be made in the Final EIS/EIR.

Revisions to the Final EIS/EIR: The Draft EIS/EIR has been changed to reflect the correct name for the Marine Corps Air Station, Yuma (MCAS YUMA) on pages S-54 and 4-100 and throughout the Final EIS/EIR where appropriate, including the following:

> Mitigation Measure 4.1.9-3 is revised to read: "Applicant shall keep the ~~USMC air station in Yuma, Arizona~~ Marine Corps Air Station, Yuma (MCAS YUMA) apprized of the current schedule and location for blasting at Project mine and process area to minimize the potential for low-flying military aircraft to be over the Project mine and process area during blasting activities.

Response to Comment E003:002: Section 2.1.9.3.1. of the Final EIS/EIR will be revised to conform to the aviation safety recommendations of the MCAS YUMA.

Revisions to the Final EIS/EIR: The last sentence of the first paragraph of page 2-21 of Section 2.1.9.3.1 will be revised as follows:

> "Special devices would be installed on this new transmission line ~~at each point where the direction that the transmission line changes~~ on about every other pole which would be visible at night only to military pilots using night vision devices to prevent collisions with ground-following aircraft (see Section 3.9.2)."

Response to Comment E003:003: Comment noted. The requested changes will be made in the Final EIS/EIR.

Revisions to the Final EIS/EIR: The first sentence of the fourth paragraph on page 4-88 of the Draft EIS/EIR has been changed as follows:

> "The ~~USMC~~ U.S. Air Force has established a flight corridor (VFR-299) that is controlled out of March Air Force Base, California, which occupies air space directly above the Project area."

RESPONSE TO COMMENT LETTER E003 RECEIVED FROM T. A. MANFREDI, COMMUNITY PLANNER, UNITED STATES MARINE CORPS AIR STATION, YUMA, DATED JANUARY 5, 1998

Response to Comment E003:004: Comment noted. The requested changes will be made in the Final EIS/EIR.

Revisions to the Final EIS/EIR: Measure 4.1.7-5 on page 4-100 of the Draft EIS/EIR has been changed as follows:

"Applicant shall establish a working relationship with both the ~~U.S. Marine Corps (USMC)~~ Marine Corps Air Station, Yuma (MCAS YUMA) and the U.S. Air Force (USAF), March Air Force Base, to ensure that nighttime lighting of the Project mine and process area does not substantially interfere with the use of Night Vision Devices (NVD) in the vicinity of the Project area or nighttime overflight operations within flight corridor VFR-299. As part of this mitigation measure, Applicant shall provide ~~the USMC Air Station, Yuma, Arizona~~ MCAS YUMA, and the USAF March Air Force Base, California, with a detailed, to-scale, map of the Project area identifying the principal surface facilities, transmission lines, and locations of potential light sources to enable the USMC and USAF to avoid or accommodate these areas during overflights and nighttime flight activities."

Response to Comment E003:005: Comment noted. The requested changes will be made in the Final EIS/EIR.

Revisions to the Final EIS/EIR: The following changes have been made to the text of the Draft EIS/EIR:

The third sentence in the first full paragraph of page 3-103 is revised to read "The USMC conducts both daytime and nighttime helicopter flight training in and around the Project area, and two (2) military visual flight rule (VFR), low-level flying routes for fixed wing aircraft are located in the vicinity of the Project area (Personal Communication, T.A. Manfredi, ~~USMC~~ Marine Corps Air Station, Yuma, June ~~2~~ 6, 1995)."

The first sentence under the first paragraph under Section 5.2.4.1. on page 5-8 is revised to read: "The USMC conducts both daytime and nighttime helicopter flight training on public lands in and around the Project area and vicinity (Personal Communication, T.A. Manfredi, ~~USMC~~ Marine Corps Air Station, Yuma, June ~~2~~ 6, 1995)."

The first sentence under the second paragraph under Section 5.2.4.1. on page 5-8 is revised to read: "Two (2) military Visual Flight Rule (VFR), low-level flying routes for fixed wing

RESPONSE TO COMMENT LETTER E003 RECEIVED FROM T. A. MANFREDI, COMMUNITY PLANNER, UNITED STATES MARINE CORPS AIR STATION, YUMA, DATED JANUARY 5, 1998

aircraft are also located in the vicinity of the Project area and cumulative impact study area (Personal Communication, T.A. Manfredi, ~~USMC~~ Marine Corps Air Station, Yuma, June ~~2~~ 6, 1995)."

3 COMMENTS LETTERS CONTAINING SUBSTANTIVE COMMENTS AND RESPONSES TO THESE COMMENTS ON THE DRAFT EIS/EIR

GOVERNMENT AGENCIES — STATE

F001

State of California THE RESOURCES AGENCY

MEMORANDUM

To: Project Coordinator
Resources Agency

Date: Februrary 26, 1998

Mr. John L. Morrison, Asst. Planning Director
Imperial County Planning/Building Dept.
939 Main Street
El Centro, CA 92243

Mr. Douglas Romoli
Bureau of Land Management
1661 S. 4th Street
El Centro, CA 92243

'98 MAR 3 AM 7 46
IMPERIAL COUNTY
PLANNING / BUILDING

From: **Department of Conservation**
Office of Governmental and Environmental Relations

Subject: Revised Draft Environmental Impact Statement/Draft Environmental Impact (DEIR/DEIS) for the Glamis Imperial Corporation Imperial Project
SCH # 95041025

The Department of Conservation's (Department) Office of Mine Reclamation (OMR) has reviewed the revised DEIR/DEIS for the above referenced project. OMR administers the Surface Mining and Reclamation Act (SMARA) and regulates the state's surface mines to ensure mines are environmentally sound and that sites are returned to a usable condition once mining has stopped. OMR staff conducted a site visit to the Imperial Project area on January 23, 1997. The proposed project would allow the establishment of a gold mine in eastern Imperial County. Under the Proposed Action (revised), up to 150 million tons of ore and 300 million tons of waste would be extracted from the 1,571-acre mine over a 20-year period. Waste would be disposed of in two of the three open pits and in waste piles. Disturbance under the proposed alternative would encompass 1,302 acres. A reclamation plan is presented in Appendix A of the DEIS/DEIR. The following comments, prepared by Catherine Gaggini and Mary Ann Showers, are offered to assist in your review of the project.

Mining Operation and Closure

(Refer to SMARA Sections 2770.5, 2772(c)(1), (c)(2), (c)(3), (c)(4), (c)(5), (c)(6), (c)(9), CCR Section 3502(b)(2), (b)(5), 3709(a), (b), 3713(a),(b))

1. Page S-5 of the DEIR/DEIS requires clarification regarding pit backfilling. The last two sentences of paragraph 2 appears to contradict each other. One sentence
001 states that waste would be placed *in one of two of the previously mined-out open pits* while the following sentence states that *both the West Pit and the Singer Pit would be entirely backfilled* [*emphasis added*] [SMARA 2772(c)(6)].

'98 MAR 3 AM 7 46
RECEIVED
INYO COUNTY
PLANNING / BUILDING

End Land Use

(Refer to SMARA Sections 2772(c)(8), 2773; CCR Section 3707(a), 3707(c), 3708)

2. The reclamation plan does not demonstrate that the East Pit will be reclaimed to a beneficial end use. According to the reclamation plan the site will be returned to a natural condition which includes, in part, leaving the East Pit excavation, drainage diversion structures, and waste rock piles and heap leach pad. Revegetation of the drainage diversion structures has received extensive treatment in the reclamation plan. Recontouring and revegetating the waste rock piles and heap leach pad will help to reclaim and blend these areas with the surrounding topography. Only minimal effort towards reclamation of the East Pit has been put forth in the reclamation plan.

002

According to the DEIR/DEIS, the East Pit will be reclaimed by providing minimal efforts to insure health and safety. As OMR stated in their December letter, the use of large boulders around the excavation probably will not sufficiently deter hikers or off-highway vehicle enthusiasts. Although , the design criteria for the drainage control structures meet regulatory design criteria for such structures, the potential still exists that the design storm will be exceeded in the future. This could result in the drainage being captured by the East Pit. OMR suggests that the DEIR/DEIS and reclamation plan include provisions for re-establishing the East Pit Diversion channel, should the channel be altered after mining has ceased.

The open pit has no discernible beneficial end use. In addition, there is a potential that the pit could cause adverse impacts to the drainage. A possible solution could be to backfill all excavated pits. OMR recommends that the health and safety issues be adequately addressed in the reclamation plan pursuant to CCR 3502(b)(2).

Geotechnical Requirements

(CCR 3502(b)(30, 3704(f), 3502(b)(4), 3704(a), 3704(b), 3704(d), 3704(e))

3. Revised plans provide for the reduction of the South Waste Rock pile from 400 feet to 300. The waste piles will be contoured and rough graded. Singer Pit and West Pit will be backfilled. The leach pad will be 300 feet high. To mitigate potential visual impacts and blend the waste piles with the surrounding terrain, OMR recommends that varnished rock, hand-sized or larger, could be removed from the soil surface and stockpiled. During reclamation, these rocks can be replaced on the waste piles with the varnished side visible. Replacement of rock will also create microsites favorable to natural revegetation.

003

98 MAR 3 AM 7 46
PLANNING / BUILDING
COUNTY
RECD

Hydrology and Water Quality

(Refer to SMARA Sections 2772(c)(8), 2773(a), CCR Sections 3502 (b)(6), 3503(a)(2), (a)(3), (b)(1), (b)(2), (d), (e), 3705(a),(b), (c),(d),(e),(f),(g), 3710 (a),(b),(c), 3712))

4. The DEIR/DEIS specifies that the drainage diversion control structures will be designed to control 6-hour, 100-year; 24-hour, 100-year; and 24-hour 500-year storm events.

004 Currently, the reclamation plan does not reflect the requirement for drainage control construction to the 24-hour, 500-year design storm. For consistency between the DEIR/DEIS and the reclamation plan, OMR recommends that the reclamation plan be updated to include the 24-hour, 500-year design storm.

Environmental Setting and Protection of Fish and Wildlife Habitat

(Refer to CCR Sections 3502(b)(1), 3503(c), 3703 (a), (b), (c), 3704(g), 3705(a), 3710(d), 3713(b))

5. Mitigation Measure 4.1.5-26 discusses wildlife carrying capacity in the "enhanced" microphyll woodland. According to the DEIS/DEIR "enhanced" refers to use of irrigation and revegetation to achieve improved wildlife habitat. OMR recommends

005 that the reclamation plan provide species-specific carrying capacities (i.e. forage per acre for five desert deer) if carrying capacity will be used to demonstrate that wildlife habitat will be at least as good as pre-project habitat [CCR Section 3703(b)].

6. Several mitigation measures relate to impacts to listed species. These measures are discussed in detail in Section 4.0 of the DEIS/DEIR. Mitigation measure 4.1.5-27 refers to the Biological Opinion prepared by the U.S. Fish and Wildlife Service, as well as consultation pursuant to Section 7 of the Federal Endangered Species Act.

006 No reference is made, however, to the requirement for formal consultation with the California Department of Fish and Game (DFG) with reference to Section 2081 of the Fish & Game Code (California Endangered Species Act (CESA)). CESA Section 2081 authorized the DFG to issue permits and memorandums of understanding to private entities allowing them to "take" endangered, threatened, and candidate species for scientific, educational or management purposes. CESA also provided for incidental take by State lead agencies following consultation with DFG. DFG used the "management authorization" provisions of 2081 and established an incidental take equivalent. Although issuance of 2081 management authorizations was suspended as a result of court actions, a ruling by the California Supreme Court led to reinstatement of this procedure which became effective on January 1, 1998. Subsequent Legislation in 1997 modified Section 2081.

OMR recommends that the applicant discuss the application of the current Section 2081 management authorization with the appropriate representative of DFG. Provisions of this agreement should then be incorporated in the DEIS/DEIR and reclamation plan [CCR Section 3703(a)].

'98 MAR 3 AM 7 46
IMPERIAL COUNTY
PLANNING / BUILDING

7. OMR recommends that a copy of the Streambed Alteration Agreement be appended
007 to the reclamation plan [CCR 3710(d)].

Resoiling and Revegetation

(Refer to SMARA Section 2773(a), CCR Sections 3503(a)(1), (f), (g), 3704(c), 3705(a), (b), (c), (d), (e), (f), (g), (h), (i), (j), (k), (l), (m), 3707(b), (d), 3711(a), (b), (c), (d), e))

8. Mitigation Measure 4.1.5-10 states that the applicant will water ironwood and deer browse seedlings to enhance their establishment. To satisfy the requirements of
008 CCR Section 3705(j), the applicant will need to demonstrate that the plants will survive without irrigation for a minimum of two years prior to release of financial assurances.

Administrative Requirements

(Refer to SMARA Sections 2772 (c)(10), 2773.1, 2774(b), 2776, 2777, PRC Section 21151.7)

9. Financial assurance calculations are provided in Table 7 of the reclamation plan. Mitigation measure 4.1.5-14 refers to the construction and maintenance of (a) wildlife guzzler(s) as a condition of final site reclamation. The costs associated with the
009 installation of and maintenance for, if applicable, the guzzler(s) should be included in the financial assurance calculations.

Advisory to County

10. The project is located with the California Desert Conservation Area. Section 3.5.4.2 of the DEIS/DEIR refers to preparation of a Habitat Management Plan (HMP) for the Indian Pass area, a requirement of the California Desert Conservation Area Plan.
010 According to the Bureau of Land Management (BLM), the HMP has not yet been prepared. If prepared, OMR recommends that provisions of the HMP that relate to site reclamation be referenced in and appended to the reclamation plan.

11. The reclamation plan is required to be a stand alone document. All documentation for the reclamation plan should be submitted by the lead agency to the department at
011 one time, as required by SMARA Section 2772. This includes all technical studies referenced in the reclamation plan. Therefore, the three following studies should be attached to the reclamation plan to create a stand alone document.

WESTEC, Inc., 1996. Geotechnical Final Design Report for the Imperial Heap Leach Facilities, Imperial Project, March 1996.

WESTEC, Inc., 1997. Preliminary Pit Slope Recommendations for the East and West Pits, Imperial Project, January 1997.

James C. Hanson, Consulting Engineer. 1997. Hydrologic/Hydraulic Analyses for West Pit and East Pit Diversion Ditches. May 1997. Portions of this study are attached to the reclamation plan. The entire analyses should be attached to the reclamation plan.

The Department appreciates the opportunity to comment on the DEIR/DEIS. If you have any questions on these comments or require assistance with other mine reclamation issues, contact James Pompy at the Office of Mine Reclamation; (916) 323-8565.

Jason Marshall
Assistant Director

attachment

cc: James Pompy, Office of Mine Reclamation

RECEIVED
EL DORADO COUNTY
PLANNING / BUILDING
'98 MAR 3 AM 7 45

RESPONSE TO COMMENT LETTER F001 RECEIVED FROM JASON MARSHALL, ASSISTANT DIRECTOR, CALIFORNIA DEPARTMENT OF CONSERVATION, OFFICE OF GOVERNMENTAL AND ENVIRONMENTAL RELATIONS, DATED FEBRUARY 26, 1998

Response to Comment F001:001: Page S-5 is correct when it states that waste rock would be directed into either of the two open pits or the waste rock stockpiles, depending upon the timing of the completion of mining in those pits. The end result would be that both the West Pit and the Singer Pit would be entirely backfilled with waste rock derived from mining of the East Pit (see Section 2.1.3., page 2-7 through 2-12, of the Draft EIS/EIR).

Revisions to the Final EIS/EIR: None.

Response to Comment F001:002: The referenced sections of SMARA (Sections 2772(c)(8) and 2773) and its implementing regulations (CCR Section 3707(a) and 3708) do not require that pits be reclaimed to a "beneficial end use." SMARA does require adequate reclamation for the proposed end use. The Reclamation Plan (Appendix A of the Draft EIS/EIR) states (page 19) that:

> "The post-mining reclamation goals at the Project are to reclaim the site to a stable, functioning landscape unit/ecosystem to allow for similar land uses, including wildlife habitat and recreation, as currently exist, consistent with the applicable reclamation standards of the California Code of Regulations, Article 9, Title 14 (Reclamation Standards), and the surface management regulations under the general mining law found in the Code of Federal Regulations, Title 43, Group 3800. The final land forms of the mine site can not be reclaimed to the original contours. Thus the goal of the Plan is not to restore and revegetate to the original land form, but to a natural state that blends in with the existing undisturbed terrain."

Neither does the Draft EIS/EIR state that reclamation of the East Pit would consist only of minimal efforts to ensure health and safety. Section 2.1.11.1. (page 2-33) of the Draft EIS/EIR states that Reclamation Plan procedures are to: "Provide a technical review of the groundwater flows and levels encountered in the East Pit. If the results of the review indicate a pit lake may form, backfill that portion of the floor of the East Pit to above the level of any projected pit lake." Table 2.3 of the Draft EIS/EIR lists that the bottom of the East Pit would have the following reclamation methods applied: vehicle access exclusion, surface preparation, and revegetation, while the East Pit slopes would have vehicle access exclusion, slope stabilization, and natural revegetation. Section 2.1.11.2.1. (page 2-38) of the Draft EIS/EIR states that "Subsequent backfill may be necessary to raise the floor of the East Pit to a level higher than the level of any pit lake which may be eventually predicted to form from the inflow of ground water." This section continues, stating that "Upon the completion of mining and any appropriate or necessary backfilling, the remaining open pits would be reclaimed by

RESPONSE TO COMMENT LETTER F001 RECEIVED FROM JASON MARSHALL, ASSISTANT DIRECTOR, CALIFORNIA DEPARTMENT OF CONSERVATION, OFFICE OF GOVERNMENTAL AND ENVIRONMENTAL RELATIONS, DATED FEBRUARY 26, 1998

regrading (and revegetating) the haul roads and floors and leaving the slopes in a stable condition. Stable angles of the final pit highwalls would be determined by an engineering analysis which would be completed after one full year of mining in each of the West Pit and East Pit. Results of these studies would then be incorporated into open pit designs."

Section 2.1.11.2.2. (pages 2-38 and 2-39) of the Draft EIS/EIR states that:

> "Pit wall slopes would be constructed during mining at angles consistent with long-term stability. Engineering analysis and the experience of Glamis Imperial's sister company, Chemgold, Inc. at the Picacho Mine, indicates that the slope of the ultimate pit walls would be 40 degrees to 50 degrees to provide the required factor of safety for long-term slope stability. Each pit is to be developed in separate phases, which allows verification of slope stability parameters. In addition, after one full year of mining in each of the East Pit and West Pit a slope stability analysis would be performed. Results of the study for each pit would be incorporated into the design of that open pit . . . . Pit walls would have safety benches at regular vertical intervals to contain minor rock spills. Pit wall slopes may increase if actual mining conditions and geotechnical factors indicate that pit wall integrity could sustain steeper slopes. After closure, pit highwalls remaining in areas not utilized for waste rock stockpiling would be left in a stable configuration, subject to natural processes, and barricaded with large boulders around the rim of the pit to prevent vehicular access and discourage pedestrian access by the public over slopes which could constitute a hazard. The barricade would consist of boulders averaging approximately four (4) feet in diameter, which would be stacked into a continuous wall no less than eight (8) feet high. This "wall" would be set back from the edge of the pit by no less than 100 feet. In addition, the uppermost ten (10) feet of the pit slope would slope no greater than 2H:1V (30 degrees), and would terminate at its lower side into a horizontal bench no less than ten (10) feet wide."

BLM believes that the barricade of large boulders around the rim of the East Pit described in the Draft EIS/EIR would "sufficiently" prevent vehicular access and discourage pedestrian access by the public over slopes which could constitute a hazard. There exists no barrier which would absolutely prevent access; individuals who genuinely want to cross an obstruction would do so, although the rock wall barrier would provide maximum protection to those people who wish to be protected. Section 4.1.12.2. (page 4-122 and 4-123) of the Draft EIS/EIR determined that the effects of the Project on public safety from the remnant open pit would be below the level of significance. Although Section 4.1.5.3.2. (page 4-55) of the Draft EIS/EIR indicates that the open East Pit would

RESPONSE TO COMMENT LETTER F001 RECEIVED FROM JASON MARSHALL, ASSISTANT DIRECTOR, CALIFORNIA DEPARTMENT OF CONSERVATION, OFFICE OF GOVERNMENTAL AND ENVIRONMENTAL RELATIONS, DATED FEBRUARY 26, 1998

remain as a slight long-term impediment to the movement to some wildlife species, and the rock rubble barricade could limit terrestrial wildlife access, the stable pit walls would allow nesting by raptors and other birds that nest in such a steep rock environment.

As stated in Section 4.1.3.1.2. (page 4-9) of the Draft EIS/EIR, the East Pit West and East Pit East diversion channels (as well as all of the other diversion channels) have been designed not only to accommodate the peak flow of the regulatory design storm (100-year, 6-hour storm; peak flows of 1,025 and 518 cfs, respectively [see Table 3.2]), but also the larger peak flows from the 500-year, 24-hour storm (peak flows of 1,394 and 704 cfs, respectively [see also Table 3.2]):

> "Each of the diversion channels has been designed to safely convey all runoff flows from the 100-year, 6-hour precipitation event, which satisfies the siting requirements for mining waste management units (23 CCR 2572(b)) and exceeds the recommended design values for diversions and drainage facilities around mining waste management units as prescribed in 23 CCR 2572(h)(1)(C). Because there is some potential for flash flooding from thunder storms, the diversion channels have also been designed with an additional "flood bench" area immediately adjacent to the main channel so that the channel and "flood bench" together can easily accommodate the 500-year, 24-hour storm flow (see Figure 2.10)."

This section of the Draft EIS/EIR determined that the impacts resulting from these stream channel alterations were below the level of significance. Given the great "over sizing" of these diversion channels, their separation from the East Pit by both distance (at least 400 feet) and waste rock stockpiles (see Figure 2.9 of the Draft EIS/EIR), and the direction of each away from the East Pit at the downstream ends (see also Figure 2.9 of the Draft EIS/EIR), it is extremely unlikely that either the East Pit West or East Pit East diversion channel would be "captured" by the East Pit anytime in the future.

However, in a letter to the Imperial County Planning/Building Department dated June 15, 1998, Glamis Imperial proposed to further ensure that the natural stream channel into which the East Pit West diversion channel discharges was not captured by the East Pit by extending a berm from the haul road to the North Waste Rock Stockpile approximately 900 feet to downstream of the point of this natural channel's closest approach (approximately 200 feet) to the rim of the East Pit (see attached Figure Q). This berm would be constructed after the completion of the mining of the East Pit. Mitigation Measure 4.1.3.1-5 would be revised to require the construction of this berm.

RESPONSE TO COMMENT LETTER F001 RECEIVED FROM JASON MARSHALL, ASSISTANT DIRECTOR, CALIFORNIA DEPARTMENT OF CONSERVATION, OFFICE OF GOVERNMENTAL AND ENVIRONMENTAL RELATIONS, DATED FEBRUARY 26, 1998

Revisions to the Final EIS/EIR: Mitigation Measure 4.1.3.1-5 will be revised in the Final EIS/EIR as follows to require the construction of a berm between the natural stream channel into which the East Pit West diversion channel discharges and the East Pit:

> "Diversion channels shall be designed to prevent the abrupt diversion of flows from their natural courses, and shall provide sufficient natural protective materials at the points of diversions where necessary to protect the diversion works. To ensure that the natural stream channel into which the East Pit West diversion channel discharges is not captured by the East Pit, a berm from the haul road to the North Waste Rock Stockpile shall be extended approximately 900 feet to downstream of the point where this natural channel turns away from the rim of the East Pit following completion of the mining of the East Pit. All designs for the diversion channels and the berm shall be signed and stamped by an engineer registered to practice in California and submitted to the Imperial County Public Works Department for approval prior to commencement of construction."

Response to Comment F001:003: (The Following Response is Also Applicable to Comments I002:010, I013:107, I013:120, I013:121, and I027:005.) As stated in Section 3.7.2. (page 3-95) of the Draft EIS/EIR, "Much of the upland areas are covered by well-developed desert pavement of gravel- to cobble-size rocks. The landscape color consists principally of browns, tans, and grays, while vegetation colors are generally browns, greens, yellows, and tans." The Project Reclamation Plan does not propose the collection of this thin veneer of darkly colored rocks, nor the placement of any salvaged rocks on the slopes of the waste rock stockpiles or the heap during reclamation, and it is not believed such is either necessary or desirable. The total amount of "hand-sized or larger" desert-varnished rock which could be salvaged from the Project mine and process area during construction would be minor compared to the final surface area of the reclaimed waste rock stockpiles and heap, and its placement would not result in a substantial alteration of either the color or texture of the surface of these features. Further, because many of the final slopes will be 2H:1V, it would be infeasible (both technically and economically) to place these rocks on the slopes. Finally, the waste rock material itself would be of a size which would naturally create "micro sites," and the creation of numerous "catchment basins" on the slopes and tops of the waste rock stockpiles and heap as part of the reclamation process is specifically designed to create locations favorable to natural vegetation. Thus, the suggested use of varnished rocks would not reduce the visual impact of the waste piles and could inhibit natural revegetation. This mitigation measure did not receive further consideration.

RESPONSE TO COMMENT LETTER F001 RECEIVED FROM JASON MARSHALL, ASSISTANT DIRECTOR, CALIFORNIA DEPARTMENT OF CONSERVATION, OFFICE OF GOVERNMENTAL AND ENVIRONMENTAL RELATIONS, DATED FEBRUARY 26, 1998

The comment does not indicate which figures fail to show the "undulating land forms" stated in the Reclamation Plan. Figure 2.4 of the Draft EIS/EIR shows the projected final contours of the Project mine and process area. However, the forty-foot contour interval used in this figure (which is the same used for the surrounding terrain and typically used in U.S. Geological Survey topography maps) cannot be used to show the details of final reclamation, such as the fine grading and catchment basins, which are of a much smaller scale than forty feet. Figures 4-2 through 4-13 of the Draft EIS/EIR show through photographs and photographic simulations from each of the key observation points (KOPs) the current view, the view following the completion of mining but prior to final reclamation, and the view following final reclamation. Comparison of Figure 4-13 (the post-mining, pre-final reclamation view) and Figure 4-9 (the view following the completion of final reclamation) of the Project mine and process area from KOP#4 clearly shows the undulating landforms discussed in the Reclamation Plan.

As stated in Section 4.1.7.2. (page 4-91) of the Draft EIS/EIR, the photosimulations of the reclaimed features shown in Figures 4-2 through 4-13 of the Draft EIS/EIR were created "Using images of similar reclaimed areas in similar rock types from the Picacho Mine and the Mesquite Mine to match colors and textures," and are believed to be an accurate representation of the final colors and contrast of these features. The very light colored soil which lies immediately under the darkly varnished desert pavement rocks is very thin and would typically not be salvaged during construction (see Section 2.1.11.3.1. [page 2-42] of the Draft EIS/EIR). The topsoil salvaged from the shallow washes and adjacent slopes would be used to reclaim the diversion channels, waste rock stockpiles, haul roads, and ancillary facilities areas, but not the heap. However, as stated in Section 4.1.7.2. (page 4-92) of the Draft EIS/EIR, final reclamation would still not result in a blending of the color, line and form sufficient to reduce the impacts to below the level of significance:

> "The Proposed Action would result in the permanent placement of certain line and form features in an area of the landscape that did not otherwise have those line and form features, and the overall color, line, form, and texture of the post-reclamation Project mine and process area features would not be reasonably consistent with the surrounding area. Accordingly, the post-reclamation visual impacts of the Proposed Action are determined to be above the level of significance."

The addition of "rock stain" to the waste rock stockpile or the heap would not substantially reduce the effects, or reduce the effects to below the level of significance. The Draft EIS/EIR (pages 4-91 and 4-94) discusses the particular importance of line and form to the determination of the

RESPONSE TO COMMENT LETTER F001 RECEIVED FROM JASON MARSHALL, ASSISTANT DIRECTOR, CALIFORNIA DEPARTMENT OF CONSERVATION, OFFICE OF GOVERNMENTAL AND ENVIRONMENTAL RELATIONS, DATED FEBRUARY 26, 1998

significance of the visual impact of the Project. While the color of the waste rock stockpiles and heap may contrast somewhat from the background colors, the effectiveness of using color (hue) to reduce the adverse visual effects resulting from visual contrast is most effective within 1,000 feet and has limited effectiveness in the background distance zone (BLM Manual 8431, Visual Contrast Rating). Since the typical views of the waste rock stockpile or heap will be characteristically from a distance, the addition of "rock stain" would not be an effective mitigation measure.

The early termination of mining under the Proposed Action, prior to the complete backfilling of the West Pit and Singer Pit, would produce visual impacts functionally equivalent to the West Pit Alternative, since under both the Proposed Action the West Pit Alternative all waste rock from the Singer Pit would be used to (partially) backfill the West Pit. The visual analysis of the West Pit Alternative (see Section 4.2.7.1. [page 4-133] of the Draft EIS/EIR) found that the West Pit Alternative would result in impacts to line and form which, like the Proposed Action, would be above the level of significance.

Revision to the Final EIS/EIR: None.

Response to Comment F001:004: Comment noted. The Applicant has agreed to revise the Reclamation Plan at page 40 and page 54 to be consistent with the Draft EIS/EIR (See Applicant letters dated June 15, 1998 and July 14, 1998 provided as Appendices P and Q to Volume I of this Final EIS/EIR, respectively).

Revisions to the Final EIS/EIR: The Final EIS/EIR will note that the Reclamation Plan at page 40 and page 54 has been revised to state that the drainage diversion have been designed to control a 24-hour, 500-year storm event in addition to the 6-hour and 24-hour, 100-year storm events.

Response to Comment F001:005: Mitigation Measure 4.1.5-26 (implementing the Stream Alteration Agreement with the CDFG) is not part of the Reclamation Plan, and does not discuss "wildlife carrying capacity." Mitigation Measure 4.1.5-8 provides specific guidance on the "enhancement" of this area:

> "Applicant shall provide periodic slug irrigation to enhance the establishment of ironwood and deer browse vegetation within the surface drainage identified by Mitigation Measure 4.1.5-7 to enhance the quality of habitat and provide established deer browse which would be immediately available at the end of the active life of the mine. Vegetation selected

RESPONSE TO COMMENT LETTER F001 RECEIVED FROM JASON MARSHALL, ASSISTANT DIRECTOR, CALIFORNIA DEPARTMENT OF CONSERVATION, OFFICE OF GOVERNMENTAL AND ENVIRONMENTAL RELATIONS, DATED FEBRUARY 26, 1998

> for enhanced deer browse establishment shall be comprised of species known to occur in the Project area. The irrigation shall be reduced and then ceased once the vegetation is established. The composition of the seed mix and the design of the vegetation enhancement measures shall be submitted to the CDFG for approval prior to implementation."

The intent behind the word "enhance" is to promote the reestablishment of ironwood trees that were historically logged in the area and provide additional feed for the local deer. There is no intent to establish specific "carrying capacities" for the wildlife in the area.

Revisions to the Final EIR/EIR: None.

Response to Comment F001:006: As stated in Section 3.5.3.2. (page 3-43) of the Draft EIS/EIR, "With the passage and approval of AB 21, effective January 1, 1998, the federal ESA Section 7 "take" authorization for a project would preclude the necessity for a state Section 2081 permit, if the Section 7 authorization is approved by CDFG as consistent with CESA." The CDFG, as a state trustee agency, has been actively involved in the discussions of the Biological Opinion for the Imperial Project with the BLM and the USFWS, and expects to approve the conditions of the Biological Opinion consistent with the requirements of CESA.

Revisions to the Final EIS/EIR: None.

Response to Comment F001:007: A copy of the Streambed Alteration Agreement will be appended to the Reclamation Plan when completed.

Revision to the Final EIS/EIR: None.

Response to Comment F001:008: See Response to Comment E002:017.

Response to Comment F001:009: See Response to Comment I002:010.

Response to Comment F001:010: See Response to Comment E001:019.

Response to Comment F001:011: The Final EIS/EIR will note that the three technical studies referenced in the Reclamation Plan (Appendix A of the Draft EIS/EIR) and noted in the comment should be attached to the Reclamation Plan by the Applicant when submitted for final approval.

RESPONSE TO COMMENT LETTER F001 RECEIVED FROM JASON MARSHALL, ASSISTANT DIRECTOR, CALIFORNIA DEPARTMENT OF CONSERVATION, OFFICE OF GOVERNMENTAL AND ENVIRONMENTAL RELATIONS, DATED FEBRUARY 26, 1998

Revisions to the Final EIS/EIR: The Final EIS/EIR will note that the three technical studies referenced in the Reclamation Plan (Appendix A of the Draft EIS/EIR) should be attached to the Reclamation Plan by the Applicant when submitted for final approval.

STATE OF CALIFORNIA - THE RESOURCES AGENCY
PETE WILSON, Governor
DEOPARTMENT OF FISH AND GAME
Eastern Sierra-Inland Deserts Region
330 Golden Shore, Suite 50
Long Beach, California 90802
(562) 590-5113

March 31, 1998

Mr. Douglas Romoli
Bureau of Land Management
1661 South 4th Street
El Centro, California 92243

Dear Mr. Romoli:

Draft Environmental Impact Statement/Report
Imperial Project, Reclamation Plan for the Chemgold, Inc.
SCH 95041025, Imperial County

001 The Department of Fish and Game (Department) has reviewed the above-referenced draft Environmental Impact Statement/Report (EIS/EIR). The project proposes to develop an open-pit precious metal mining operation, utilizing heap leach processes. The 1571-acre project site is located approximately 45 miles northeast of El Centro, and 20 miles northwest of Yuma Arizona, in Imperial County, California. The Department provides the following general and specific comments for incorporation into the final EIS/EIR. The Department strongly advises that multi-agency meetings be continued to discuss unresolved biological issues which remain.

WILDLIFE

Desert Bighorn Sheep

002 The Department requests that all employees of the project proponent report any and all sightings of bighorn sheep on or adjacent to the project area. A written report must be sent immediately to Department. If sheep begin to use this area, mitigation and/or a change in project plans may be required by the Department.

Desert Mule Deer

003 Objections raised by the U.S. Army Corps of Engineers (Corps) and the U.S. Fish and Wildlife Service (USFWS) regarding the Department's proposed mitigation recommendations for microphyll woodland habitats need to be resolved. The Department stands firm on our proposed mitigation for the loss of this important habitat type. Further, the Department has tentatively agreed to this mitigation in the draft Streambed Alteration Agreement (1603 Permit).

004 Increased traffic on both State Highway 78 and Ogilby Road has resulted in increased deer mortality over the past five years. It is estimated that vehicle related deer mortality accounts for the death of 1-3% of the D-12 deer population in that area. Recently, the legal speed limit on Ogilby Road was raised to 65-miles per hour. This increase may lead to an even further increase in highway related deer mortality. The Department does not believe that posting lower speed limit signs along Ogilby Road will be an effective means to reduce deer versus motor vehicle interactions. The Department suggests that the Applicant, in conjunction with Caltrans, develop a strategy to reduce the potential for these types of interactions.

005 Ms. Nancy Nicolai, Wildlife Biologist, and Mr. Larry Caffy (both with the Bureau of Land Management (BLM), El Centro Resource Area, searched for and documented deer fawn fecal pellets and deer-beds in dense vegetation, which is consistent with the view that the project area is used as deer fawning habitat (per. comm. Nancy Nicolai).

Reptiles

006 The Department concurs with the mitigation measures proposed to offset impacts to desert tortoise, (*Gopherus agassizii*), a State- and Federally-listed threatened species. Approximately 1400 acres of desert tortoise habitat will be disturbed by the project, and the compensation ratio will be on a 1:1 basis. Compensation lands to be purchased should be located in areas identified as critical habitat within Imperial County.

007 The Department is concerned about potential impacts to the Chuckwalla (*Sauromalus obesus)* a BLM sensitive species and USFWS special status species. California Environmental Quality Act Guidelines § 15380 indicate that sensitive species be viewed as though they were listed, if the proposed project may reduce their numbers. The draft EIR/EIS fails to propose any compensation to offset impacts to this species. This issue needs to be addressed in the EIR/EIS.

008 The Department is also concerned about indirect impacts to the flat-tailed horned lizard, (*Phrynosoma mcallii*), a California Species of Special Concern and a Federally proposed threatened species. Increased traffic on Ogilby Road will result in the loss of some individuals. The Department finds that the loss of "a small number of flat-tailed horned lizards" is unacceptable and does not consider this to be a less than significant level. Again, CEQA Guidelines, § 15380, indicate that sensitive species be viewed as though they were listed and appropriate mitigation should be provided. The Department requests that the EIR/EIS identify adequate compensation, which should include habitat acquisition.

GENERAL COMMENTS

Covers for Open, Pregnant, or Barren Ponds, etc.

009 The draft EIR/EIS discussed covering the heap leach pads, pregnant and barren solution ponds, and overflow ponds with three different possible types of coverings. The three types of coverings described in the draft EIR/EIS to deter wildlife from coming into contact with cyanide solutions are solid covers, netting, and/or floating HDPE balls. The Department, however, believes that the optimal solution is for all the identified facilities to be covered with an impervious membrane to prevent wildlife losses. In addition, the Department recommends that all open canals, waterways, spillways, etc., that contain or have the potential to become contaminated with any chemical, other than clean water, be covered completely with a solid cover in such a way as to deny access to any and all wildlife.

Reporting Animal Mortalities

010 The death of any wildlife species must be reported on a monthly reporting form. If the cause(s) of death cannot be reasonably determined on site, the carcass must be sent to an approved veterinary pathology laboratory for necropsy. The cost associated with these procedures must be born by the project applicant. Necropsy reports must be distributed to the Department and BLM. All animals that die within or near the project boundary and are either a State- or Federally-listed threatened or endangered species must automatically be sent for necropsy. All animals that are found dead must also be photographed as part of the documentation, and those photos must remain as part of the permanent mine files. The applicant will contact the Department when a large mammal is injured or found dead so that biological samples can be collected (see § 4.1.5-3, associated text, and appendices).

Lighting

011 The Department feels that full discussion of impacts associated with project lighting need to be addressed. The document does not include a discussion on the biological impacts that lighting, if introduced, will create. Lighting will attract a wide variety of both insects and small mammal species that in turn will be preyed upon by various nocturnal predator species, thus creating an artificial predator-prey relationship. A full discussion of these impacts, along with mitigation, needs to be included in the document.

Expanded Educational Programs

012 The Department strongly recommends that "workers educational programs" be expanded to cover non-threatened and endangered species such as, but not limited to deer, desert bighorn sheep, and bat species as a way to sensitize them to these highly valued species.

Feral Dogs

013 Free roaming feral dogs are a problem in Imperial County and have been a deadly nuisance to wildlife. The Department recommends that any wild dogs in and around the mine site be removed immediately. Mine employees can contact both Department and Imperial County Animal Control for assistance with removal.

Exploration Bore Holes

014 All existing and future test core bore holes must be sealed immediately after completion of drilling to prevent entry by wildlife.

Loss of Recreational Opportunity

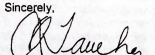
015 The implementation of any of the proposed alternatives for this project may result in the direct loss of recreational opportunity in such forms as hunting and viewing of wildlife. Such loss of opportunities has not been discussed or mitigated for in this document. This issue needs be addressed.

RECLAMATION

016 The proposed Imperial Project has a large "sphere of influence" with the potential of adverse impacts to many species that rely on desert habitats for their existence. Due to the project's duration and the above-mentioned inconsistencies, the Department can only support the "Complete Pit Backfill Alternative".

Thank you for the opportunity to review and comment on this project. We request a copy of your response to our comments and/or the final EIS/EIR immediately upon approval and prior to filing the Notice of Determination. If you have any questions, please contact Ms. Nancy Andrew, Wildlife Biologist, at (619) 351-1676.

Sincerely,



Curt Taucher
Regional Manager

copy: See attached list

copy: Department of Fish and Game
Ms. Nancy Andrew - Brawley, CA
Mr. Gerald Mulcahy - Blythe, CA
Ms. Sharon Keeney - Brawley, CA
Mr. Frank Hoover - Chino, CA
Ms. Denyse Racine - Bishop, CA
Mr. Vern Bleich - Bishop, CA
Mr. Jim Dice - San Diego, CA
Ms. Dee Sudduth - Jamul, CA

U.S. Fish and Wildlife Service
Carlsbad, California

U.S. Bureau of Land Management
El Centro, California

State Clearinghouse
Sacramento, California

RESPONSE TO COMMENT LETTER F002 RECEIVED FROM CURT TAUCHER, REGIONAL MANAGER, CALIFORNIA DEPARTMENT OF FISH AND GAME, DATED MARCH 31, 1998

Response to Comment F002:001: Comment noted.

Revisions to the Final EIS/EIR: None.

Response to Comment F002:002: (The Following Response is Also Applicable to Comments E002:008, E002:011, F002:003, F002:010, and I024:018.) USFWS and CDFG request or require coordination and/or approval of the reclamation/revegetation plan and guzzler placement, construction and maintenance; and reporting of all wildlife mortalities, microphyll woodland survey results, vegetation monitoring results, and bighorn sheep sightings.

Mitigation Measures 4.1.5-1, 4.1.5-3, and 4.1.5-4 address reporting requirements with regard to wildlife mortalities and are consistent with the comment except as to the agencies receiving reports. All mortalities that are detected that may be associated with the use of cyanide by the Project are already required to be reported to all agencies under Mitigation Measure 4.1.5-3, regardless of whether they are inside or outside of the Project area. Mitigation Measure 4.1.5-1 will be modified to clarify that reporting is required to the USFWS and to be according to established CDFG procedures. A separate mitigation measure will be added to require reporting of bighorn sheep sightings to the agencies. Guzzler placement is addressed in Mitigation Measures 4.1.5-9 and 4.1.5-14; both measures will be modified to include USFWS as a reviewing agency.

Revisions to the Final EIS/EIR: The following mitigation measures will be revised as indicated:

- 4.1.5-1: Applicant shall construct a fence around the entire Project mine and process area. The fence shall be constructed no less than four (4) feet in height with 3-strands of smooth wire, or equivalent. That portion of the perimeter fence constructed along the western boundary of the Project mine and process area, including all of the fenceline adjacent to Indian Pass Road (see Figure 2.2), shall be a chain-link fence, no less than six (6) feet in height, to restrict public access to the Project mine and process area. The entire perimeter fence shall include desert tortoise exclusion fencing, in conformance with responsible agency requirements, to inhibit tortoise access to Project facilities (see also Mitigation Measure 4.1.5-40). Applicant shall construct a chain-link fence, no less than six (6) feet in height, with one (1) foot of barbed wire at the top, around the ore leach pad, process facilities, and fresh water pond to further restrict wildlife from accessing these facilities. Applicant shall routinely inspect and repair the fences, as necessary. Applicant shall document any deer or other wildlife mortalities observed within the Project mine and process area, shall monthly report such mortalities to the BLM, the USFWS, and the CDFG

RESPONSE TO COMMENT LETTER F002 RECEIVED FROM CURT TAUCHER, REGIONAL MANAGER, CALIFORNIA DEPARTMENT OF FISH AND GAME, DATED MARCH 31, 1998

in accordance with established reporting procedures, and shall work with the BLM, the USFWS, and CDFG to implement additional or amended measures to reduce the mortalities. Necropsies shall be performed when required by, and in accordance with, CDFG guidelines. A field contact representative (FCR) shall be responsible for maintaining the records of perimeter fence inspections and repair, and shall have authority to direct the repair of damaged or destroyed fences. The FCR may be a project manager, company environmental coordinator, contract biologist, or other person identified as responsible by the Applicant.

- 4.1.5-4: Applicant shall advise Project employees, contractors, and visitors of the need to adhere to speed limits and to avoid any animals, including the desert tortoise, flat-tailed horned lizard, and deer which may be encountered on, or crossing roads to and from the Project area. Applicant shall also require Project employees, contractors, and visitors to report all incidences of wildlife injury or mortality resulting from Project-related vehicle traffic on roads used to access the Project to the FCR, who shall monthly report these incidences to the BLM, the USFWS, and the CDFG. Applicant shall participate in agency efforts to reduce mortality of wildlife on the roads used as access to the Project when so requested by the BLM.

- 4.1.5-9: Applicant shall construct and maintain during the life of the Project three (3) big game guzzlers in a design and location acceptable to the BLM, the USFWS, and the CDFG in the general vicinity of the Project mine and process area to provide for more intensive use of the existing habitat by deer and other wildlife. Within one (1) year of approval of the ROD, the Applicant shall have either: provided sufficient funds to a third party (acceptable to BLM, USFWS, and CDFG) which shall construct, own, and operate the guzzler; or completed construction of the guzzler. Applicant or the acceptable third party shall obtain the required permits from the BLM prior to guzzler construction. The guzzler shall remain after reclamation.

- 4.1.5-14 Applicant shall construct and maintain as a part of final reclamation, one or more big game and/or small game guzzlers within the Project mine and process area in a design and location acceptable to the BLM, USFWS, and the CDFG to enhance the area as habitat for deer and other wildlife. Final Project reclamation bond(s) shall not be released until either: the Applicant has provided sufficient funds to a third party (acceptable to BLM, USFWS, and CDFG) which shall construct, own, and operate the guzzler(s); or the Applicant has completed construction of the guzzler(s). Applicant or the acceptable third party shall obtain the required permit from the BLM prior to guzzler construction. The guzzler(s) shall remain after reclamation. The guzzler(s) shall be designed and constructed in a manner which allows desert tortoise to readily exit the guzzler(s).

RESPONSE TO COMMENT LETTER F002 RECEIVED FROM CURT TAUCHER, REGIONAL MANAGER, CALIFORNIA DEPARTMENT OF FISH AND GAME, DATED MARCH 31, 1998

- 4.1.5-57: Applicant shall document any bighorn sheep sightings on or adjacent to the Project area. A written report shall be sent immediately to the BLM, the USFWS, and CDFG.

Response to Comment F002:003: See Response to Comment F002:002.

Response to Comment F002:004: (The Following Response is Also Applicable to Comment I024:019.) Mitigation Measure 4.1.5-4 requires the Applicant to cooperate with the appropriate agencies in any plan which they may develop to reduce mortality to wildlife on the public roads used as access to the Project.

Vehicle access to the Project area will occur over existing County roads, which also provide access to other destinations in the region. As stated in Section 4.1.5.3.4. (page 4-62 and following) of the Draft EIS/EIR:

> "Vehicles commuting on roads to the Project mine and process area would increase the potential for vehicle impacts with deer and resulting injuries and mortality. If the Project results in an approximate five (5) percent increase in traffic (see Section 4.1.11.1.2.), then a proportional potential increase in traffic-related deer mortality (i.e., an increase from approximately two (2) percent to 2.1 percent) would be expected to result."

The Draft EIS/EIR does not propose the lowering of speed limits on Ogilby road to reduce deer mortality from vehicles (or any other purpose). However, Mitigation Measure 4.1.5-48 requires notification signs for the desert tortoise and speed limit signs to be placed and maintained within the Project boundary and along Indian Pass Road. Also, Mitigation Measure 4.1.5-4 directs that the:

> "Applicant shall advise Project employees, contractors, and visitors of the need to adhere to speed limits and to avoid any animals, including the desert tortoise, flat-tailed horned lizard, and deer which may be encountered on or crossing roads to and from the Project area. Applicant shall also require Project employees, contractors, and visitors to report all incidences of wildlife injury or mortality resulting from Project-related vehicle traffic on roads used to access the Project to the FCR, who shall monthly report these incidences to the BLM and the CDFG. Applicant shall participate in agency efforts to reduce mortality of wildlife on the roads used as access to the Project when so requested by the BLM."

RESPONSE TO COMMENT LETTER F002 RECEIVED FROM CURT TAUCHER, REGIONAL MANAGER, CALIFORNIA DEPARTMENT OF FISH AND GAME, DATED MARCH 31 1998

Insofar as practical, all incidences of wildlife injury or mortality resulting from Project-related vehicle traffic on roads used to access the Project should be reported to the FCR.

Revisions to the Final EIS/EIR: None.

Response to Comment F002:005: (The Following Response is Also Applicable to Comments I013:288, I017:006 and J007:004.) As stated in Section 3.5.6.2. (page 3-77 through 3-80) of the Draft EIS/EIR, there are conflicting interpretations as to the importance of the Project area, and specifically the microphyll woodland habitat found in the major washes within the Project mine and process area, as deer fawning habitat. All parties referenced in Section 3.5.6.2. (page 3-78 through 3-80) of the Draft EIS/EIR concur that the deer use the Project area to "migrate" back and forth to the Colorado River. The CDFG and the ICFGC have stated that the microphyll woodland in the major washes within the Project area and vicinity provide deer fawning habitat and support numbers of deer. However, these reported observations are not consistent with the independent assessment made by Dr. Paul R. Krausman, a consulting wildlife ecologist, who visited the Project area and concluded that the Project area is not consistent with habitat used to support a resident deer herd or with important deer fawning habitat. (Professor Krausman is clearly an expert on desert deer: his report, contained as Appendix I of the Draft EIS/EIR, alone cites ten references which he authored on desert deer, and does not acknowledge "that he knows little about desert deer in southeastern California.") Further, site-specific biological surveys conducted during typical deer fawning periods in 1995 and 1996 did not result in observations of deer fawning within the Project area. However, the CDFG reports that the BLM identified deer fawn fecal pellets and deer-beds in dense vegetation in some of the washes in the Project area in the Fall of 1997. The conflicting information is discussed in Section 3.5.6.2. (pages 3-78 and 3-80) of the Draft EIS/EIR.

The potential impacts of the Project on deer fawning and deer fawning habitat are discussed in Section 4.1.5.3.4. (page 4-62 and following):

"• To the extent the Project mine and process area serves as deer fawning habitat, the approximately 87 acres of microphyll woodland in the washes would be destroyed as potential fawning habitat during Project construction."

"• Deer may become stressed if they get into the Project mine and process area, and this could reduce fawn production in does."

RESPONSE TO COMMENT LETTER F002 RECEIVED FROM CURT TAUCHER, REGIONAL MANAGER, CALIFORNIA DEPARTMENT OF FISH AND GAME, DATED MARCH 31, 1998

> "Given conflicting professional opinion as to the importance of the Project area and vicinity for deer use and as fawning habitat, the specific significance of the impacts of the Proposed Action on deer and deer habitat without the implementation of those measures designed into the Proposed Action to reduce the impact and compensate for the adverse effects on microphyll woodland habitat is uncertain. However, with the implementation of these measures, impacts to deer and deer habitat are below the level of significance."

Section 4.1.5.4. lists the 12 mitigation measures which, in whole or in part, are incorporated by Project design which avoid or reduce potentially significant impacts on deer (Mitigation Measures 4.1.5-1, 4.1.5-4, 4.1.5-5, 4.1.5-6, 4.1.5-8, 4.1.5-9, 4.1.5-10, 4.1.5-11, 4.1.5-12, 4.1.5-13, 4.1.5-14, and 4.1.5-35). In addition, Mitigation Measure 4.1.5-11 requires that the surveys conducted by the Project Applicant to document the status of wash vegetation shall also document any incidental sightings of deer fawn, which shall be reported to the BLM and CDFG in a form acceptable to the BLM.

Although there is some conflicting professional opinion as to the importance of the Project area and vicinity for deer use and as fawning habitat, the Project-proposed mitigation measures presented in the Draft EIS/EIR assume that the area is deer fawning habitat, and thus ensures that the impacts to the potential deer fawning habitat are below the level of significance. Therefore, there is not need for additional baseline studies regarding deer fawning habitat within the Project mine and process area.

Revisions to the Final EIS/EIR: None.

Response to Comment F002:006: (The Following Response is Also Applicable to Comments I013:293, I017:005 and J010:004.) Section 4.1.5.3.1. (page 4-52) of the Draft EIS/EIR presents a discussion of the benefit to vegetation, wildlife and ecosystem processes expected from the off-site compensation of upland habitat for desert tortoise and microphyll woodland habitat.

Revisions to the Final EIS/EIR: None.

Response to Comment F002:007: (See Also Response to Comment I006:004.) The comment misrepresents the requirements of the CEQA Guidelines (14 CCR §15380). The CEQA Guidelines, 14 CCR §15380(d), states that "A species not included in any listing identified in subsection (c) shall nevertheless be considered to be rare or endangered if the species can be shown to meet the criteria in subsection (b)." The chuckwalla is identified in the Section 3.5.6.1. (page 3-49, Table 3-8) of the

RESPONSE TO COMMENT LETTER F002 RECEIVED FROM CURT TAUCHER, REGIONAL MANAGER, CALIFORNIA DEPARTMENT OF FISH AND GAME, DATED MARCH 31, 1998

Draft EIS/EIR as a BLM sensitive species and USFWS special status species; it is listed in neither Section 670.2 or Section 670.5, Title 14, California Administrative Code *or* Title 50, Code of Federal Regulations Sections 17.11 or 17.12 pursuant to the Federal Endangered Species Act as rare, threatened, or endangered. Accordingly, it does not meet the criteria of a "rare or endangered species" under Section 15380(c) of the CEQA Guidelines. In addition, there is no credible evidence that the chuckwalla meet the criteria of either "endangered" or "rare" under Section 15380(b) of the CEQA Guidelines. Therefore, we conclude that the chuckwalla does not meet the definition of either "rare" or "endangered" under Section 15380 of the CEQA Guidelines.

Revisions to the Final EIS/EIR: None.

Response to Comment F002:008: (The Following Response is Also Applicable to Comment I003:003.) As stated in Section 4.1.5.3.4. (page 4-58) of the Draft EIS/EIR,

> "There were no flat-tailed horned lizards observed within the Project area during the biological surveys of the area, and no flat-tailed horned lizard habitat exists within the Project area. Likewise, there were no flat-tailed horned lizard or flat-tailed horned lizard sign observed during the specific survey for the flat-tailed horned lizard, along the southernmost portions of the 34.5 kV transmission line to be overbuilt for the Project. Flat-tailed horned lizard habitat does exist south of Interstate Highway 8 in the proximity of the tap (origin) for the overbuilt 92 kV/34.5 kV transmission line, but Interstate Highway 8 provides a permanent barrier which would prevent lizard crossings and potential impacts to the lizard and lizard habitat south of the highway during construction of the overbuilt 92 kV/34.5 kV transmission line."

> "There have been no recorded sightings of flat-tailed horned lizard within ten (10) miles of the Project mine and process area and Project ancillary area. However, there is a potential that a small number of flat-tailed horned lizards may be injured or killed as a result of Project-related traffic traveling along an approximately one-mile section of flat-tailed horned lizard habit located immediately north of the junction of Ogilby Road and Interstate Highway 8. The results of the flat-tailed horned lizard surveys indicate any impacts to individual flat-tailed horned lizards or its habitat would be below the level of significance."

Both the uncertainty of any impact from Project-related traffic and the very small (five percent) increase in traffic in the area of the flat-tailed horned lizard habitat as a result of the Project (see Section 4.1.11.1.2., page 4-113, of the Draft EIS/EIR), which is compensated in part due to the

RESPONSE TO COMMENT LETTER F002 RECEIVED FROM CURT TAUCHER, REGIONAL MANAGER, CALIFORNIA DEPARTMENT OF FISH AND GAME, DATED MARCH 31, 1998

contemporaneous closing of the American Girl Mine (see Section 5.2.1.1., page 5-3, of the Draft EIS/EIR) contributed to a finding of no significant impact on FTHL by the Project. Mitigation Measure 4.1.5-4 specifically requires that the Applicant "advise Project employees, contractors, and visitors of the need to adhere to speed limits and to avoid any animals, including the desert tortoise, flat-tailed horned lizard, and deer which may be encountered on or crossing the road to and from the Project area." The comment letter submitted by the USFWS on the Imperial Project 1996 Draft EIS/EIR (which was used as a scoping comment for the 1997 Draft EIS/EIR) stated that "The Project would result in impacts to the federally threatened desert tortoise (*Gopherus agassizii*) and the flat-tailed horned lizard (*Phrynosoma mcallii*) proposed for federal listing. The proposed mitigation for these species appears adequate, however Bureau of Land Management (BLM) will need to consult with the Service pursuant to section 7 of the Endangered Species Act, as Amended (Act)." As noted in Section 3.5.6.1. (page 3-62) of the Draft EIS/EIR, the proposed rule to list the flat-tailed horned lizard was withdrawn on July 15, 1997 (62 Federal Register 37852-37860).

None of the flat-tailed horned lizard habitat which is crossed by those short portions of Ogilby Road that would be utilized by Project-related vehicles is proposed to be incorporated into any of the recently proposed flat-tailed horned lizard management areas (Working Group of Flat-tailed Horned Lizard Interagency Coordinating Committee, October 1996, *Flat-tailed Horned Lizard Rangewide Management Strategy*). Appendix 3 of this document lists mitigation measures applicable to proposed activities in proposed management areas or, in some cases, in flat-tailed horned lizard habitat in general. Mitigation measure 11 ("Existing roads shall be used for travel and equipment storage whenever possible"), the only mitigation measure applicable to that portion of the Project within flat-tailed horned lizard habitat, is inherent in the Project design. Appendix 4 of this document (Compensation Formula) states that "If the adverse effects of an action can be fully mitigated (no net adverse impact) or if an action would result in no adverse effects on habitat, then compensation is not required". Since the Project will not result in any adverse effects on flat-tailed horned lizard habitat, compensation is not warranted.

As discussed in "Response to Comment F002:007," CEQA Guidelines (14 CCR §15380) does not require mitigation or compensation if the wildlife species does not meet the definition of either "rare" or "endangered".

Section 3.5.6.2. (page 3-72) of the Draft EIS/EIR will be revised to delete the reference to recordation of flat-tailed horned lizard during the surveys.

RESPONSE TO COMMENT LETTER F002 RECEIVED FROM CURT TAUCHER, REGIONAL MANAGER, CALIFORNIA DEPARTMENT OF FISH AND GAME, DATED MARCH 31, 1998

Revisions to the Final EIS/EIR: The first paragraph under the heading "Other Special Status Wildlife Species:" in Section 3.5.6.2 (page 3-72) of the Draft EIS/EIR will be corrected as follows:

> "Several wildlife species that are either USFWS Special Status Species, BLM Sensitive Species, and/or designated state Species of Special Concern were recorded during the surveys. These species include the chuckwalla (*Sauromalus obesus*), ~~flat-tailed horned lizard (*Phrynosoma mcallii*),~~ loggerhead shrike (*Lanius ludovicianus*), sharp-shinned hawk (*Falco striatus*), northern harrier (*Circus cyaneus*), and American badger (*Taxidea taxus*)."

Response to Comment F002:009: (See Also Response to Comment J003:009.) The CDFG's preference for solid covers over the "heap leach pads, pregnant and barren solution ponds, and overflow ponds" is noted. As stated in Section 2.1.8.2. (page 2-18) of the Draft EIS/EIR, the Project Applicant has proposed to cover the pregnant and barren solution ponds with small-mesh nets to prevent wildlife access. Further, as stated in Section 2.1.8.1. (page 2-16) of the Draft EIS/EIR, the leach pad would be designed and constructed using an internal central piping system to drain the pregnant solution into the pregnant solution pond; no solution ditches would be exposed at the surface, and all of the leach solution from the leach pad would be discharged to the ponds within the netted area of the ponds. The Draft EIS/EIR does not discuss any covers for the heaps as wildlife would not be expected to be attracted to the drip irrigation system (or sprinklers) because, as stated in Section 2.1.8.1. (page 2-18) of the Draft EIS/EIR, they are designed and monitored to not produce ponded solution, and should any ponding of the cyanide solution on the heap leach pad be found, the solution application would be immediately repaired or adjusted and the ponding eliminated. The Project Applicant has not proposed nets over the overflow pond.

Mitigation Measure 4.1.5-3 of the Draft EIS/EIR requires the Project Applicant to cover the pregnant and barren solution ponds with small-mesh nets; solid, 40-mil HDPE/polypropylene covers; floating plastic balls, or equivalent cover. Mitigation Measure 4.1.5-34 of the Draft EIS/EIR extends this requirement for nets or other suitable covering over all ponds containing toxic solutions. Each of the three alternative coverings mentioned have been demonstrated to be effective in keeping wildlife out of ponds at other mine sites when properly installed and maintained, and the mitigation measure specifically requires that the cover material chosen be acceptable to the BLM. The mitigation measure also explicitly requires that the Applicant maintain the cover over the life of the Project and monitor, record, and report any wildlife kills observed in the vicinity of the ponds to the BLM, USFWS, and CDFG. If the agencies determine that the selected pond covering is not effective, the agencies may require the implementation of additional mitigation. The implementation of a solid

RESPONSE TO COMMENT LETTER F002 RECEIVED FROM CURT TAUCHER, REGIONAL MANAGER, CALIFORNIA DEPARTMENT OF FISH AND GAME, DATED MARCH 31, 1998

pond cover instead of the proposed small mesh net is not appropriate unless the monitoring demonstrates it to be.

The cyanide process solution is an acute wildlife toxic; that is, it does not bioaccumulate, and so cyanide ingested by a game species would not pose a substantial toxic risk to a predator species.

Revisions to the Final EIS/EIR: None.

Response to Comment F002:010: See Response to Comment F002:002.

Response to Comment F002:011: As stated in Section 1.4., Table 1.1 (page 1-8) of the Draft EIS/EIR, the need for a discussion regarding the effects of lighting on wildlife was specifically identified as one of the principal issues of concern in the comments on the November 1996 Draft EIS/EIR which were used as scoping comments during the preparation of the 1997 Draft EIS/EIR, and this same table indicated that a discussion regarding lighting had been added to both the Proposed Action and Environmental Consequences Chapters. Section 2.1.9.3.3. (page 2-23), entitled "Exterior Lighting," was presented in the Draft EIS/EIR. As stated in Section 4.1.5.3.2. (page 4-53) of the Draft EIS/EIR, "Individual animals could also be subject to . . . increased mortality from project-related stresses, including night lighting, in the vicinity of the Project mine and process area." Section 4.1.5.3.4. contains discussions of the impact of night-lighting on the American badger, cheeseweed owlfly, bat species, and deer. The badger is expected to avoid lighted areas. The cheeseweed owlfly may be attracted to lighted areas. As stated on page 4-62, "Night lighting from the Project would attract insects and could result in a net increase in bats foraging in the vicinity of the Project mine and process area. This could lead to individual bat collisions with lights or drownings in ponds. However, based on the availability of off-site day roost areas and foraging habitat, the effects of the Proposed Action on sensitive bat species and their habitat would be below the level of significance." In addition, on the same page 4-62, the Draft EIS/EIR states: "Noise from equipment operation, blasting activities, and human presence, as well as night lighting of the Project mine and process area facilities, would be expected to inhibit deer activity in the immediate vicinity of the Project mine and process area in the short-term; however, deer would be expected to acclimate to Project noise over time and resume utilization of the areas outside the boundaries of the Project mine and process area (Personal Communication, Nancy Andrew, CDFG, 1997)."

As stated in Section 4.1.7.2. (page 4-88) of the Draft EIS/EIR, "The Proposed Action includes restricting exterior night lighting to the minimum necessary, consistent with safety requirements and

RESPONSE TO COMMENT LETTER F002 RECEIVED FROM CURT TAUCHER, REGIONAL MANAGER, CALIFORNIA DEPARTMENT OF FISH AND GAME, DATED MARCH 31 1998

24-hour-per-day operations." Mitigation Measure 4.1.7-4 is designed to implement this restriction and reduce fugitive light.

Revisions to the Final EIS/EIR: None.

Response to Comment F002:012: The Draft EIS/EIR already contains such an educational program. As stated in Mitigation Measure 4.1.5-35 on page 4-73 of the Draft EIS/EIR:

> "Project employees involved with regular activities shall be required to take a threatened and endangered species education program which shall include a discussion of both endangered and threatened species and species that are not endangered or threatened. The program shall include information on the biology of listed, sensitive and unlisted species as well as the desert tortoise, flat-tailed horned lizard, mule deer, big horn sheep, and bats and their occurrence in the Project area. The discussion will include information on the measures being implemented for the protection of these species and their habitats during Project activities and means by which individual employees can facilitate this process."
>
> "A program approved by BLM shall be employed and taught by a qualified individual acceptable to the BLM. Wallet-size cards signifying completion of training shall be issued to employees. All employees shall participate in the education program prior to commencing Project activities. New employees shall receive formal approved training prior to working on-site. The program shall typically last from between one and two hours and shall cover the following topics at a minimum:
>
> - Distribution in general and on the Project site
> - General behavior and ecology;
> - Sensitivity to human activities;
> - Legal protection;
> - Penalties for violation of State and federal laws;
> - Reporting requirements; and
> - Project mitigation measures."

Revisions to the Final EIS/EIR: None.

RESPONSE TO COMMENT LETTER F002 RECEIVED FROM CURT TAUCHER, REGIONAL MANAGER, CALIFORNIA DEPARTMENT OF FISH AND GAME, DATED MARCH 31, 1998

Response to Comment F002:013: The Draft EIS/EIR already contains such a requirement for feral dogs. As stated in Mitigation Measure 4.1.5-56 on page 4-77 of the Draft EIS/EIR: "Applicant shall contact local animal control agents to remove feral dogs that are observed within the Project area."

Revisions to the Final EIS/EIR: None.

Response to Comment F002:014: The Draft EIS/EIR already contains such a requirement for sealing exploration bore holes. As stated in Mitigation Measure 4.1.5-32 on page 4-72 of the Draft EIS/EIR, "All test holes shall be immediately capped or abandoned upon completion of drilling to prevent access of wildlife." Drilled "test core bore holes" are covered during drilling to prevent wildlife access and then either immediately backfilled and closed or, in some circumstances, completed (with, among other things, the installation of a permanent cover) as ground water monitoring wells.

Revisions to the Final EIS/EIR: None.

Response to Comment F002:015: (The Following Response is Also Applicable to Comments I013:108 and I013:413.) The effects of the Project on dispersed recreational resources, including hunting and wildlife viewing, are discussed in Section 4.1.9.2 of the Draft EIS/EIR. As stated on page 4-106 the Draft EIS/EIR:

> "The entire Project mine and process area (approximately 1,571 acres) would be fenced and closed to the public during the entire operating life of the Project, which would eliminate these lands from any recreational use during this period. Following the completion of mining operations, surface facilities (buildings, roads, process facilities and ponds, etc.) and foundations would be removed, and final reclamation activities (grading and rounding of waste rock stockpiles and the heap, revegetation, installation of guzzlers, etc.) commenced. With the completion of final reclamation, the perimeter fence would be removed and public access to the area reestablished, except for the 198-acre area of the open East Pit, which would be surrounded by a rock boulder barrier to prevent vehicle access and discourage pedestrian access. As discussed in Section 4.1.5., both vegetation and wildlife habitat values would slowly recover, and opportunities for hunting, hiking, camping and other dispersed recreational activities would again be available in the Project mine and process area (with the exception of the 198-acre open East Pit)."

RESPONSE TO COMMENT LETTER F002 RECEIVED FROM CURT TAUCHER, REGIONAL MANAGER, CALIFORNIA DEPARTMENT OF FISH AND GAME, DATED MARCH 31, 1998

"Construction and operation of Project facilities within the Project mine and process area would not prevent camping, hunting or other dispersed recreation activities in areas outside of the fenced boundary of the Project mine and process area. Most recreational activities in the immediate vicinity of the fenced Project mine and process area would, however, be affected by Project activities conducted during the projected 20-year life of the Project within the Project mine and process area. Dispersed recreation would be affected by emissions of air pollutants (see Section 4.1.4.), visibility of the mine components (see Section 4.1.7.), noise generated by mine operations (see Section 4.1.8.2.), and Project-related traffic on Indian Pass Road (and possibly Ogilby Road) (see Section 4.1.11.1.2.), even though mitigation measures to reduce the effects of these air emissions, visibility, noise, and traffic impacts are presented in the respective sections of the EIS/EIR. As a result of these effects of the project, dispersed recreational use of the areas adjacent to the Project mine and process area would likely be reduced during the life of the Project."

The effects of the Project on dispersed recreational opportunities, including hunting and wildlife viewing, in the area were determined in the Draft EIS/EIR to be below the level of significance (see Section 4.1.9.2.) This determination was made, in part, because there are "no unique recreational resources within the Project area, and because comparable recreational opportunities would still be available in large areas of public land similar to, but outside of, the Project Area." Accordingly, no mitigation measures were necessary, or proposed, to reduce the level of impacts to dispersed recreational opportunities, including hunting and wildlife viewing, to below the level of significance. In Section 4.1.5.3.2, it is noted that because of the "substantial amount of alternative [biological] habitat available, these impacts [direct and indirect impacts from Project activities] to wildlife and wildlife movement are not considered significant."

Revisions to the Final EIS/EIR: None.

Response to Comment F002:016: See Response to General Comment 001.

3 COMMENTS LETTERS CONTAINING SUBSTANTIVE COMMENTS AND RESPONSES TO THESE COMMENTS ON THE DRAFT EIS/EIR

GOVERNMENT AGENCIES — LOCAL

URGENT

December 26, 1997

G001

DRAFT Re: CHEMGOLD PROJECT

The three major concerns of the Town of Felicity regard 1) Water 2) Air and 3) the 92KV power line.

001 1. At this point we do not sufficiently understand the effect of the Chemgold project upon the water quality of the aquifer to make intelligent comments. We desire further study and will commission experts at the Groundwater Conference scheduled for Felicity, CA. 24 February 1998.Also we request that the project await review by the Imperial Groundwater Commission.

002 2. Air Quality is particularly serious since prevailing winds are north and west, hence any disturbance will affect Felicity directly. Here again we desire further study.

003 3. The 92KV line as we understand it, is a particularly unsightly ADDITION to the existing unsightly 30KV line. This new line with poles of 70 to 100' above the ground and seven lines, will destroy the view of both the Town of Felicity and of the World Commemorative Center(R) thereby, for practical purposes, possibly ending both projects. The visual aspects of the EIR have glossed over the absolute ruin of the beautiful view to the north. The power line is a direct violation of the requirements of the Felicity Historical Society, cutting right through the Town.

Felicity does not object to additional sources of electricity, quite the contrary. However we question both the route which could be much further to the north along existing unsightly huge pylons of SDGE, or buried through the main part of Felicity as all electrical lines have been buried since the start of the town.

Felicity is currently very small and growing slowly, yet the Supervisors, at no cost to the County have seen an increase in real estate tax revenue in the order of 5000% (far better than stock market index investments). The investment in Felicity of millions of dollars and its 40 year commitment to beauty and quality, would be mortally wounded by the 92KV power line, to say nothing of possible dangers to air and water quality, the main selling points of the town, now and in the future.

The Supervisors face an interesting economic choice. If Felicity succeeds - at no cost to the County, and there is no reason why this attractive debt free town should not expand successfully, the annual real estate tax revenue in a few years, should be about three and a half million dollars.

Should the elderly principal be discouraged, his option is to get out by selling 20 acre ranches, easily recovering a portion of his investment, and turning this part of the County into a continuation of mobile home ranches of dubious attractiveness with an estimated total tax revenue to the County on 2400 acres, of about $65,000 per year- a net potential loss of beauty, attractive presence for tourism, millions of dollars of tax revenue and hundreds of jobs.

The Town of Felicity is prepared to endorse the Chemgold project if it is assured of keeping the present quality of air and water, and if a SOLUTION is found to preserve the beautiful view to the north by either rerouting or burying the 92KV power line.

Supervisor Van De Graaeff
Mr. Heuberger

Here are my first comments on the EIR. May I have your thoughts regarding my draft? Thank you - time is of the essence.

RESPONSE TO COMMENT LETTER G001 RECEIVED FROM JACQUES-ANDRE ISTEL, TOWN OF FELICITY, DATED DECEMBER 26, 1997

Response to Comment G001:001: (The Following Response is Also Applicable to Comment G003:002.) Impacts to ground water quality are discussed in Section 4.1.3.2.1 of the Draft EIS/EIR, starting on page 4-22. The Draft EIS/EIR concluded that the Project impacts to ground water quality would not be significant. The existing Project ground water exploration well, PW-1, which if approved would serve as one of the ground water production wells, has been tested to produce relatively poor quality water (total dissolved solids concentration of 906 mg/l and fluoride concentration of 1.6 mg/l [Table 3.6 of the Draft EIS/EIR]) from a completion interval of 718 to 918 feet bgs (Section 3.3.2.1., page 3-29, of the Draft EIS/EIR).

The Town of Felicity is located more than 12 miles (over 63,360 feet) south of the Project ground water production area. The Draft EIS/EIR (Section 4.1.3.2.1, page 4-19) indicates that the predicted drawdown of the potentiometric (ground water) surface at a distance of only 50,000 feet from the Project well field could range from 1.5 to 6.4 feet after 20 years of pumping. Drawdown of the potentiometric surface beneath the Town of Felicity would be less than this since the town is more than 50,000 feet from the Project ground water well field. This is a very small drawdown of the ground water level, and it would not a significant impact to ground water quality near the Town of Felicity. There is also no need for the Project ground water wells to be drilled deeper because the depth of ground water production from the Project ground water wells would not have an affect on the ground water under the Town of Felicity.

Revisions to the Final EIS/EIR: None.

Response to Comment G001:002: (The Following Response is Also Applicable to Comment G003:001.) Section 3.4.2, page 3-35, of the Draft EIS/EIR discusses the existing meteorological conditions in the Project area. Section 4.1.4.2, pages 4-39 through 4-43, and Appendix O discuss the results of the air quality modeling performed for the Project and, thus, the predicted air quality impacts of the Project. The Draft EIS/EIR states that the prevailing winds are out of the west and northwest from October to May and are generally out of the southeast during the summer months. The town of Felicity is located approximately 16 miles (26 kilometers) due south of the Project mine and process area, which is not directly in line with the prevailing winds. The air quality impacts of the Project on the town of Felicity were not specifically calculated by the modeling conducted for the Project. However, these air quality impacts have been deduced from the air quality modeling results presented in Appendix O in Section 2.2.4.5.1 (PM_{10}), Section 2.2.4.5.2 (NO_x/NO_2), Section 2.2.4.5.3 (SO_2), and Section 2.2.4.5.4 (CO), and in Appendices M-1 through M-5 and Appendices N-1 and N-2. The air quality impacts of the Project were modeled at the American Girl Mine, located approximately 7.5 miles (12 kilometers) due south of the Project mine and process

RESPONSE TO COMMENT LETTER G001 RECEIVED FROM JACQUES-ANDRE ISTEL, TOWN OF FELICITY, DATED DECEMBER 26, 1997

area, and at Bard, located approximately 18 miles (29 kilometers) southwest of the Project mine and process area. Because the American Girl Mine is located in the same direction from the Project mine and process area but only slightly over one-half as far from Felicity, and because Bard is located at a distance from the Project mine and process area only slightly greater than Felicity, but in the predominant wind direction, these two locations provide conservative substitutes for the modeling of maximum short-term air quality of the Project on Felicity. Table ? summarizes these modeled maximum short-term air quality impacts of the Project.

Table 1: Modeled Maximum Short-Term Air Pollutant Concentrations Near Felicity

Modeled Receptor	Location		Ambient Concentrations ($\mu g/m^3$)			
	Easting	Northing	PM_{10}	NO_x/NO_2	$SO_x/SO2$	CO
Short-Term AAQS Standard	N/A	N/A	50	470	655	23,000
American Girl Mine	707200	3637300	1.87	154.96	1.29	20.55
Bard	729000	3630500	0.45	17.23	0.08	1.97

As stated in the Draft EIS/EIR, PM_{10}, SO_2, and CO at the concentrations modeled for either the American Girl Mine or Bard would be undetectable above background levels, and would result in no noticeable air quality changes in the town of Felicity. The NO_x/NO_2 concentrations have been conservatively calculated by assuming that all of the ambient ozone is available to convert the emitted NO_x to NO_2. This results in maximum short-term NO_2 concentrations modeled at the American Girl Mine being approximately one-third the one-hour California ambient air quality standard, which would be discernible over background, while at Bard the modeled concentration is less than four percent of the standard, which would not be discernible over background. These impacts are below the level of significance and no further analysis is required to evaluate the air impacts on the town of Felicity.

Revisions to the Final EIS/EIR: None.

Response to Comment G001:003: (The Following Response is Also Applicable to Comment G003:003.) Connection to alternative power lines was assessed in Section 2.3.1.6 of the Draft EIS/EIR, which found that the existing Imperial Irrigation District (IID) 34.5 kV transmission line (without upgrading to 92 kV) was not capable of transmitting the power required by the Project. Use of an existing Western Area Power Administration (WAPA) 161 kV transmission line was also

RESPONSE TO COMMENT LETTER G001 RECEIVED FROM JACQUES-ANDRE ISTEL, TOWN OF FELICITY, DATED DECEMBER 26, 1997

analyzed and found to result in the same, or potentially greater, environmental impacts as the Proposed Action. Further, use of the WAPA line was not feasible as WAPA was unable to provide the capacity to transmit the power required by the Project.

Constructing an underground 92 kV transmission line was discussed in Section 2.3.1.7 of the Draft EIS/EIR. This analysis found that the technology to place the 92 kV transmission line under ground is available, but its use in rural settings is very limited, and the IID has neither the technical nor staff capabilities to either construct or maintain an underground transmission line. In addition, costs for constructing a buried transmission line are from eight (8) to ten (10) times the construction costs for standard above ground transmission lines, and maintenance costs and line (electric) losses are also substantially higher. The specific analysis conducted for the construction of the entirely new 92 kV transmission line in the Project ancillary area also found that although visual effects may be reduced, impacts associated with surface disturbance would increase, and this alternative was eliminated from further consideration. Section 4.1.7 of the Draft EIS/EIR addressed the visual effects of the proposed transmission line, noting that the 92 kV/34.5 kV transmission line would present little contrast compared to the existing 34.5 KV transmission line.

The proposed 92 kV/34.5 kV transmission line would be constructed in the 20-foot wide right-of-way granted to IID by the BLM and the easements obtained from private landowners near Interstate 8. Relocation of the transmission line to the San Diego Gas and Electric (SDG&E) right-of-way is not feasible because the SDG&E right-of-way does not cross the existing IID 94 kV transmission line to which the upgraded transmission line must connect.

Revisions to the Final EIS/EIR: None.

MWD
METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Office of the General Manager

G002

February 26, 1998

Mr. Douglas Romoli
Bureau of Land Management
1661 South 4th Street
El Centro, California 92243

Dear Mr. Romoli:

Draft Environmental Impact Statement/Environmental
Impact Report for the Imperial Project in Imperial County, California

The Metropolitan Water District of Southern California (Metropolitan) has received the Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the Imperial Project in Imperial County. Glamis Imperial Corporation proposes to develop an open-pit, precious metal mining operation utilizing the heap leach process. The Draft EIS/EIR has been revised from that issued in November 1996 and is a replacement/recirculation of the previous Draft EIS/EIR. This letter contains our response as a potentially affected public agency.

Page 3-22; Section 3.3.2.1; Hydrologic Resources-Groundwater Quality; First Paragraph

001 The fourth sentence states that the first 45 miles of the Coachella Canal was lined in the 1980s. Actually, the concrete-lined canal that was constructed parallel to the first 49 miles of the original earthen Coachella Canal was placed into service in 1980. Therefore, in the interest of accuracy, please revise the phrase, "Since the lining of the first 45 miles of the Coachella Canal in the 1980's" to read, "Since the 1980 completion of the lining of the first 49 miles of the Coachella Canal".

Page 3-22; Section 3.3.2.1; Hydrologic Resources-Groundwater Quality; Second Paragraph

002 This paragraph states that "no federal water appropriation permit would be required if groundwater was produced from this area." This statement is based on the Draft EIS/EIR's conclusion that Colorado River water would not replace water that is withdrawn via project wells from the Amos-Ogilby-East Mesa Basin aquifer. We believe the basis for this conclusion is faulty, as discussed in the following paragraphs.

The conclusions of the US Geological Survey (USGS) study, referenced in the Draft EIS/EIR as "Wilson, et al., 1994," was limited to those aquifers that extend from the Colorado River floodplain upstream of Laguna Dam. According to Mr. Jeff Addiego of the US

Bureau of Reclamation's (Reclamation) Lower Colorado Regional Office in Boulder City, Nevada, the USGS is continuing its study of the aquifer that extends from the Colorado River floodplain downstream of Laguna Dam. This study is scheduled to be completed by December 1998. Metropolitan would agree that "Wilson, et al., 1994" concluded that water withdrawn from the aquifer beneath the proposed project well field would not be replaced by Colorado River water upstream of Laguna Dam. However, Mr. Addiego indicated that it is possible the continuing USGS study may conclude that such withdrawals would be replaced by Colorado River water downstream of Laguna Dam. Indeed, the Draft EIS/EIR, in the first sentence of this paragraph, states that a principal source of recharge to the Amos-Ogilby-East Mesa Basin is the Colorado River.

The Final EIS/EIR needs to address the possibility that the ongoing USGS study may determine that the proposed project wells will yield water that would be replaced by Colorado River water. Note that this issue arose during consideration of Citrus Heights Ranches' application for a Conditional Use Permit discussed in Section 5.2.2.3 of the Draft EIS/EIR (page 5-6). In an undated letter to Mr. Joseph T. Oddo of Citrus Heights Ranches (copy enclosed), Reclamation discussed the aquifer study and noted that those wells found to be withdrawing water that would be replaced by Colorado River water "must have a contract with Reclamation for that water, as mandated in section 5 of the Boulder Canyon Project Act of 1928 and provided for in article II(B)(5) of the 1964 Supreme Court decree in Arizona v. California et al." Any contract for use of such water would be junior in priority to the 5,362,000 acre-feet of Colorado River water already contracted for within the State of California. As California's basic annual apportionment to Colorado River water is 4,400,000 acre-feet, water availability under such a contract would be on a year-by-year basis.

We appreciate the opportunity to provide input to your planning process. We would also appreciate receiving copies of all future documentation and notices regarding this project. If we can be of further assistance, please contact me at (213) 217-6242.

Very truly yours,

Laura J. Simonek

Laura J. Simonek
Principal Environmental Specialist

JLS:jpa

Enclosure

United States Department of the Interior

BUREAU OF RECLAMATION
Yuma Area Office
P.O. Box D
Yuma, Arizona 85366

IN REPLY REFER TO

YAC-6052
WTR-4.10

Mr. Joseph T. Odde
Citrus Heights Ranches
7332 East Butherus Drive
Scottsdale AZ 85260

Subject: Amendment to Conditional Use Permit (CUP) for Citrus Heights Ranches to Increase Ground-Water Withdrawal - Imperial County, California (Amended CUP Application Dated July 15, 1996)

Dear Mr. Odde:

We have received a copy of your request to the Imperial County Planning Department to increase ground-water pumping for Citrus Heights Ranches from 1,900 acre-feet per year to 2,800 acre-feet per year. Based on the information contained in our June 7, 1995, letter to you (copy enclosed for your reference) and the September 5, 1996, telephone conversation between you and Ms. Cindy Flores of my staff, we currently do not have any objection to the increase in ground-water withdrawal. However, we must advise you that the possibility exists that future pumping of ground water for Citrus Heights Ranches may depend on your ability to take water under another Colorado River water user's entitlement or else possibly be terminated.

As you know, Reclamation is in the process of conducting hydrologic studies in the area of Citrus Heights Ranches to help further define the River Aquifer Boundary (Boundary) in the Yuma area. These studies are taking longer than expected to complete due to problems encountered in obtaining permission to drill on Bureau of Land Management and Quechan Indian Reservation lands. As mentioned in our June 7 letter to you, the Boundary is an area within which water pumped from wells would be considered Colorado River water or as being replaced by Colorado River water. Those that pump water from wells found to be in the Boundary (hence, pumping Colorado River water) must have a contract with Reclamation for that water, as mandated in section 5 of the Boulder Canyon Project Act of 1928 and provided for in article II(B)(5) of the 1964 Supreme Court decree in Arizona v. California et al., or take that water under another user's entitlement to use that water.

We will advise you as soon as a determination is made as to whether water pumped for Citrus Heights Ranches is Colorado River water or not. Our goal is to have the Boundary issue resolved by the end of this year. If the determination is made that you are taking Colorado River water, you must obtain a legal means for use of the water or discontinue pumping. The possibilities for obtaining a legal use of this water were outlined in our June 7 letter. Please recognize that neither the United States nor its agents will be held liable for any loss or damage suffered to crops being farmed on Citrus Heights Ranches because of lack of water. However, should we determine that an entitlement is required, we will provide you a reasonable period of time to obtain one before requiring that you cease pumping.

If you wish to discuss this matter further or need additional information, please contact me at 520-343-8155 or Mr. Don Young at 520-343-8293.

Sincerely,

JIM S. LEMMON

Gary L. Bryant
Area Manager

Enclosure

cc: Mr. Jesse P. Silva
Imperial Irrigation District
Attention: Mr. Elston Grubaugh
P.O. Box 937
Imperial CA 92251
(w/encl)

Mr. Gerald R. Zimmerman
Executive Director
Colorado River Board of
California
770 Fairmont Avenue, Suite 100
Glendale CA 91203-1035
(w/encl)

Mr. Kent Hector
Imperial County Planning
Department
939 Main Street
El Centro CA 92243-2856
(w/encl)

YAO-6052
WTR-4.10

Mr. Joseph T. Oddo
Citrus Heights Ranches
7332 East Butherus Drive
Scottsdale AZ 85260

Subject: Conditional Use Permit (CUP) for Citrus Heights Ranches - Imperial County, California

Dear Mr. Oddo:

It is our understanding that your application for a CUP to reactivate three wells in Imperial County for a proposed citrus orchard has been approved. At this time, we do not have any objection to your proposed development. However, we wish to advise you of ongoing investigations we are conducting that will most likely impact your operation adversely in the future.

Reclamation is currently embarking on a program to inventory all wells that could be presumed to yield water that is or would be replaced by Colorado River water. The purpose of this well inventory is to account for all Colorado River water diversions, including underground pumping, and to protect the long-term Colorado River water supply by ensuring that all users of Colorado River water have an entitlement for its use. This inventory is vital because the total use of Colorado River water in the Lower Basin States of Arizona, California, and Nevada is approaching their entitlement of 7.5 million acre-feet.

Concurrent with the well inventory, Reclamation is conducting a study using observation wells to help further define the River Aquifer Boundary in the Yuma area. The River Aquifer Boundary (Boundary) is an area within which water pumped from wells would be considered Colorado River water or would be considered as being replaced by Colorado River water. The three wells and all lands receiving water from the wells on the Citrus Heights Ranches property, specifically in Section 18, Township 16 South, Range 21 East, are within this proposed Boundary.

Water pumped from wells found to be in the Boundary (hence, pumping Colorado River water) must be contracted for with Reclamation, as authorized in section 5 of the Boulder Canyon Project Act of 1928, and provided for in article II(B)(5) of the 1964 Supreme Court decree Arizona v. California et al. In order to obtain an individual contract with Reclamation, a recommendation from the State of California for an entitlement must be secured. However, since the State of California's Colorado River water apportionment of 4.4 million acre-feet is fully allocated, your only other option would be to obtain a portion of an existing entitlement holder's water right.

The Imperial Irrigation District (IID) is under contract with Reclamation and holds an entitlement to Colorado River water. Based on their April 17, 1995, letter to you, it is our understanding that 8 out of the 10 parcels included in your CUP application fall within the formal boundaries of the IID's Pilot Knob Unit. You would be required to petition the IID for diversion of pumped ground water to those lands. Parcels 056-080-01 and -031 are not included in the Pilot Knob Unit. You have the option of petitioning the IID for an inclusion of those parcels. There is a possibility that the IID may not grant the request for diversion of water or for inclusion of the two parcels not currently included in the Pilot Knob Unit.

In closing, we wish to reiterate that a strong possibility exists that the water pumped from the three wells on Citrus Heights Ranches property in Imperial County, California, may indeed be determined to be Colorado River water. If that is the case, use of the well water will be terminated until such time as the criteria mentioned above are met. Based on the letter from the IID dated March 30, 1995, it does not appear likely that they will grant a petition for diversion of water or for inclusion of the two parcels not currently included in the Pilot Knob Unit. Therefore, if Citrus Heights Ranches chooses to go forward and develop the citrus orchard, there is a possibility that water will not be available in the future for irrigation purposes. Neither the United States nor its agents will be held liable for any loss or damage suffered to the orchard because of lack of water.

If you wish to discuss this matter further, please contact Ms. Jennifer Herrera or Mr. Don Young at 520-343-8264 or -843I, respectively.

Sincerely,

Harold Peterson

for Gary L. Bryant
Area Manager

cc: Mr. Jesse P. Silva
Imperial Irrigation District
Attention: Mr. Elston Grubaugh
P.O. Box 937
Imperial CA 92251

Mr. Kent Hector
Imperial County Planning
Department
939 Main Street
El Centro CA 92243-2856

RESPONSE TO COMMENT LETTER G002 RECEIVED FROM LAURA J. SIMONEK, PRINCIPAL ENVIRONMENTAL SCIENTIST, METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA, DATED FEBRUARY 26, 1998

Response to Comment G002:001: We agree with the comment; however, the suggested clarification does not alter the conclusions of the Draft EIS/EIR regarding the effect of the lined Coachella Canal on the basin hydrology.

Revisions to the Final EIS/EIR: The sentence beginning on the seventh line of the first paragraph of Section 3.3.2.1. (page 3-22) of the Draft EIS/EIR has been revised as follows: ~~"Since the lining of the~~ The first ~~45~~ 49 miles of the Coachella Canal ~~in the 1980's~~ was replaced with a parallel concrete-lined canal which was placed in service in 1980. This essentially eliminated leakage from the Coachella Canal, and total recharge to the basin was roughly estimated in 1993 at 100,000 afy (Environmental Solutions, Inc. 1993a)."

Response to Comment G002:002: (The Following Response is Also Applicable to Comment I014:007.) The comment misquotes Section 3.3.2.1 (page 3-22) of the Draft EIS/EIR. The referenced sentences are quoted as follows (emphasis added):

> "Although the principal source of recharge to the Amos-Ogilby-East Mesa Basin is reported to be from the Colorado River and leakage from the All American Canal, the United States Geological Survey (USGS) recently determined that the **Project mine and process area** is outside of the Colorado River aquifer (Wilson, et al. 1994); that is, it is outside of that area from which ground water production would be replaced by Colorado River water, **and thus no federal water appropriations permit would be required if ground water was produced from this area**. However, this USGS study evaluated the Colorado River system only from Hoover Dam to Laguna Dam, and **although the Project mine and process area is clearly within the boundary of the USGS study area, the Project ground water test well PW-1 and the Project ground water well field are located immediately to the west (outside) of the boundary of this USGS study**. The U.S. Bureau of Reclamation has recently terminated its study of the boundary of the Colorado River aquifer outside of the area studied by the USGS, and the USGS has no immediate plans to expand the area of their previous study (Personal Communication, Jeff Adagio, USBR, July 1, 1997)."

Thus, the Draft EIS/EIR clearly states that the relationship of the ground water production area to the Colorado River aquifer, and offers no opinion regarding the need for a federal water appropriations permit for water produced from the ground water production area.

RESPONSE TO COMMENT LETTER G002 RECEIVED FROM LAURA J. SIMONEK, PRINCIPAL ENVIRONMENTAL SCIENTIST, METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA, DATED FEBRUARY 26, 1998

Subsequent to the completion of the text for the Draft EIS/EIR, the USGS initiated its subsequent study of the Colorado River aquifer below Laguna Dam (Personal Communication, Richard P. Wilson, USGS, March 10, 1998). The USGS has recently confirmed that this report is currently scheduled for completion during the second quarter of 2000, barring any unforeseen problems (Personal Communication, Sandy Owen-Joyce, USGS, February 24, 2000). The results of this study, including the location of the Project ground water production area relative to the Colorado River aquifer, will not be known until the report is released to the public by the USGS. However, any determination by the USGS that the Project ground water production area is inside of the Colorado River aquifer (that is, it is inside of that area from which ground water production would be replaced by Colorado River water) is advisory only as to federal appropriations permits for Colorado River water. That is, the USBR is not bound by the results of the USGS study and makes a separate decision regarding whether to request or require a federal water appropriations permit of producers of ground water. Should the USGS report determine that the ground water produced from the Project ground water production area would be replaced by water from the Colorado River aquifer, the USBR may elect to require a Colorado River water appropriations contract from Glamis Imperial.

Revisions to the Final EIS/EIR: A new sentence is added to the end of the second paragraph of Section 3.3.2.2. (page 3-22) of the Draft, as follows:

> However, should the USBR or USGS determine that ground water produced from the Project ground water production area would be replaced by water from the Colorado River aquifer, the USBR may elect to require a Colorado River water appropriations contract from the Glamis Imperial.

The following is added to the bottom of the list of federal, state, and local agency authorizing actions required for the Imperial Project on the second page of the abstract:

> Colorado River Water Appropriations Contract from the U.S. Bureau of Reclamation (uncertain).

The following is added to Table 1.4 on page 1-17 of the Draft EIS/EIR following the row for the Bureau of Alcohol, Tobacco and Firearms:

United States Bureau of Reclamation	Colorado River Water Appropriations Contract (uncertain)

TOWN OF FELICITY **G003**
SITE OF THE OFFICIAL CENTER OF THE WORLD

THE MAYOR

March 26, 1998

TOWN OF FELICITY REQUEST FOR MODIFICATIONS TO THE DRAFT ENVIRONMENTAL IMPACT STATEMENT/ENVIRONMENTAL IMPACT REPORT FOR AN OPEN-PIT, HEAP-LEACH MINE BY GLAMIS IMPERIAL CORPORATION

THE THREE CONCERNS OF THE TOWN OF FELICITY ARE:

1. Air Quality
2. Water
3. The ruining of the Town of Felicity by unsightly power lines forbidden by the Felicity Historical Society.

001 AIR QUALITY

Prevailing winds will bring polluting emmissions directly from the Chemgold project to Felicity.

Good air quality is one of the major reasons to live at Felicity, and vital to health. The Chemgold project may or may not significantly affect the air quality at Felicity, but we desire further analysis

002 WATER

A recent scientific conference about groundwater sponsored by the California Rural Water Association brought experts from far and wide to Felicity on 24 February 1998.

The Felicity aquifer was described as being of the highest quality.

Two vital facts regarding the aquifer are:

1. THE AGE OF THE WATER is at least 15,000 years. While there is some surface recharge, the bulk of the water is prehistoric.

2. THE QUALITY of the water worsens with depth. Pumping shallow water at say 100 to 200 feet below the surface of the aquifer (approximately 250 to 350 feet below ground level near I-8) removes the best water and over time WORSENS THE OVERALL QUALITY OF THE ENTIRE AQUIFER.

As an Imperial County Groundwater Commissioner, I shall therefore recommend that industrial and agricultural use of the aquifer (both requiring immense quantities of water compared to housing) should be required to pump at least 1,000' (one thousand feet) below the surface of the aquifer.

ONE CENTER OF THE WORLD PLAZA FELICITY CALIFORNIA 92243 U.S.A. (760) 572-0100 FAX (760) 572-2222

Therefore, for the purpose of commenting about the proposed 20-year use of vast quantities of water for industrial purposes by Chemgold, the Town of Felicity would insist that such large scale siphoning take place at least 1,000' below the surface of the aquifer at the location of the proposed draw. To this 1,000' of course must be added the distance from the surface to the water level.

We believe that such measures are required to ensure an adequate supply of good drinking water for future generations. The above measure does not entirely abate our other concern about possible contamination.

003 RE VISIBILITY REDUCTION

Neither we nor, we believe Chemgold, understand (nor has IID addressed our question) WHY CONSTRUCT 16 miles of NEW and UNSIGHTLY line when a fraction of the distance would do if IID connected to an existing nearby line.

While this alternate solution might be administratively more complex for IID, it would save large sums to Chemgold and indirectly to Imperial County tax payers. It would also save the attractive features of the Town of Felicity.

The projected 92KV power line will have new poles nearly TWICE THE HEIGHT of the present ones crossing Center of the World Drive at the very entrance of the Town of Felicity. THIS WILL RUIN THE ENTRANCE TO THE TOWN.

Since inception, and at its own great cost, the Town of Felicity, by edict of the Felicity Historical Society has BURIED ALL POWER LINES.

We respectfully request that the Imperial County Planning Department and the Board of Supervisors of Imperial County INSIST ON THE BURIAL of the 92 KV line starting at a point 300 feet south of I-8 then under I-8 to a point 600 feet north of I-8 along Sidewinder Road.

Even then, with its much higher poles, the 92 KV line damages the aesthetics of future growth at Felicity whose area includes well over a mile of land affected by the line.

To put matters in perspective, the Chemgold project envisions a handful of jobs for 20 years.

The Town of Felicity, in its last twelve years, has increased County real estate tax receipts in its location by a more than fifteen to one ratio, and created some jobs. The Town is planned for 45,000 inhabitants, thousands of jobs, and a future as long as that of Imperial County.

SUMMARY

The Town of Felicity does not arbitrarily oppose the Chemgold project, only certain negative features as outlined above. These can be remedied at relatively modest cost, particularly if IID connects into the existing line quite close to the Chemgold proposed location.

The present proposal, if adopted as is, would ruin the present and probably any future of the Town of Felicity, whose own plans propose only a very modest demand upon precious natural resources.

Respectfully Submitted

Jacques-Andre Istel

Jacques-Andre Istel
Mayor, Town of Felicity

RESPONSE TO COMMENT LETTER G003 RECEIVED FROM JACQUES-ANDRE ISTEL, MAYOR, TOWN OF FELICITY, DATED MARCH 26, 1998

Response to Comment G003:001: See Response to Comment G001:002.

Response to Comment G003:002: See Response to Comment G001:001.

Response to Comment G003:003: See Response to Comment G001:003.

SOUTHERN CALIFORNIA

ASSOCIATION of GOVERNMENTS

Main Office

818 West Seventh Street

12th Floor

Los Angeles, California

90017-3435

t (213) 236-1800

f (213) 236-1825

www.scag.ca.gov

Officers: • President: Supervisor Judy Mikels, Ventura County • First Vice President: Hon. Ron Bartlett, City of Monterey • Second Vice President: Supervisor Yvonne Brathwaite Burke, Los Angeles County • Immediate Past President: Mayor Dick Riddel, Palm Desert

County of Imperial: Sam Sharp, Imperial County • Daniel Dhillon, El Centro

County of Los Angeles: Yvonne Brathwaite Burke, Los Angeles County • Richard Alatorre, Los Angeles • Richard Atkinson, Diamond Bar • Beth Barnett, Monterey • Bruce Barrows, Cerritos • George Bass, Bell • Bob Bowen, Glendora • Hal Bernson, Los Angeles • Robert Brunsch, Rosemead • Lucas Chinh, Los Angeles • Doug Drummond, Long Beach • Nate Fenson, Los Angeles • Michael Feuer, Los Angeles • John Flynn, Long Beach • Eric Garcetti, Los Angeles • Eileen Givens, Glendale • Jackie Goldberg, Los Angeles • Garland Hunkerman, Inglewood • Nate Holtzendorff, Los Angeles • Yvon Hoskins, Los Angeles • Randi McGinty, Diamond • Barbara Messina, Alhambra • Cindy Miscikowski, Los Angeles • Darrell Morris, Palmdale • George Nakano, Torrance • Pam O'Connor, Santa Monica • Jenny Oropeza, Long Beach • Beatrice Proo, Pico Rivera • Mark Ridley-Thomas, Los Angeles • Dennis Rung, Claremont • Richard Riordan, Los Angeles • Marcine Shaw, Compton • Fred Sherman, Los Angeles • Jan Wochs, Los Angeles • Rita Walters, Los Angeles • Dennis Washburn, Calabasas • Paul Zee, South Pasadena

County of Orange: William Steiner, Orange County • Bev Agnew, San Clemente • Ron Bates, Los Alamitos • Art Brown, Buena Park • Lou Correa, Santa Ana • Richard Dixon, Lake Forest • Cathy Green, Brea • Gary Ovitt, Yorba Linda • Tod Ridgeway, Newport Beach • Miguel Pulido, Santa Ana • Charlene Wadsworth, La Palma • Ron Wirtz, Irvine

County of Riverside: James Venable, Riverside County • Dick Kelly, Palm Desert • Ron Loveridge, Riverside • Andrea Puga, Corona • Ron Roberts, Temecula

County of San Bernardino: John Mullen, San Bernardino County • Bill Alexander, Rancho Cucamonga • Jim Bagley, Twentynine Palms • Deborah Barnard, Upland • Daniel Fitzpatrick, Redlands • Norman Hickling, San Bernardino • Clarence Norman-Perry, Chino Hills

County of Ventura: Judy Mikels, Ventura County • Glen Becerra, Simi Valley • Steve Bennett, Ventura • Carl Morehouse, San Buenaventura • Toni Young, Port Hueneme

Printed on Recycled Paper 4/14/97

January 16, 1998

G004

Bureau of Land Management
1661 South 4th Street
El Centro, CA 92243
Attention: Douglas Romoli

RE: **Comments on the Bureau of Land Management, Imperial Project (Glamis Imperial Corporation Open Pit Gold Mine) Draft Environmental Impact Statement/ Environmental Impact Report - SCAG No. I 9700661**

Dear Mr. Romoli:

Thank you for submitting the **Imperial Project (Glamis Imperial Corporation Open Pit Gold Mine) Draft Environmental Impact Statement/ Environmental Impact Report** to SCAG for review and comment. As areawide clearinghouse for regionally significant projects, SCAG assists cities, counties and other agencies in reviewing projects and plans for consistency with regional plans.

The attached comments are meant as administrative comments to provide guidance for considering the proposed project within the context of our regional goals and policies which are based upon state and federal mandates, as noted herein. If you have any questions regarding the attached comments, please contact Bill Boyd at (213) 236-1960.

Sincerely,

J. DAVID STEIN
Manager, Performance Assessment and Implementation

**COMMENTS ON THE BUREAU OF LAND MANAGEMENT
IMPERIAL PROJECT (GLAMIS INTERNATIONAL OPEN-PIT GOLD MINE)
DRAFT EIS/EIR**

PROJECT DESCRIPTION

The Imperial Project is a proposal by Glamis International Corporation to develop an open-pit, precious metal mining operation utilizing heap leach processes located on public lands administered by the U. S. Bureau of Land Management. The proposed site is located in easterly Imperial County, approximately 45 miles northeast of El Centro, California and 20 miles northwest of Yuma, Arizona. The project area is comprised of approximately 1,571 acres of unpatented mining claims.

Up to 150 million tons of ore would be leached and 300 million tons of the three planned open pits. The expected maximum average mining rate would be 130,000 tons per day. Approximately 1,362 acres of surface disturbance would occur as a result of the proposed action. Mining activities would be performed 24 hours per day, seven days per week, and are projected to commence in 1998 and terminate around the year 2017. Reclamation activities would likely continue beyond this date.

Approximately 300 workers may be required to construct the Project facilities, although only a portion of these workers would be at the Project site at any given time. Approximately 120 workers would be employed to operate the Project. Employees would be encouraged to carpool to the mine site. The Project would spend approximately $48 million for initial capital items, $1.7 million per year in continuing capital expenditures, and spend $26 million per year in non-capital expenditures including payroll.

I. INTRODUCTION TO SCAG REVIEW PROCESS

001 The document that provides the primary reference for SCAG's project review activity is the Regional Comprehensive Plan and Guide (RCPG). The RCPG chapters fall into three categories: core, ancillary, and bridge. The Growth Management, Regional Mobility (being a summary of the 1994 Regional Mobility Element), Air Quality, Hazardous Waste Management, and Water Quality chapters constitute the core chapters. These core chapters respond directly to federal and state planning requirements. The core chapters constitute the base on which local governments ensure consistency of their plans with applicable regional plans under CEQA. The Air Quality and Growth Management chapters contain both core and ancillary policies, which are differentiated in the comment portion of this letter.

Ancillary chapters are those on the Economy, Housing, Human Resources and Services, Finance, Open Space and Conservation, Water Resources, Energy, and Integrated Solid Waste Management. These chapters address important issues facing the region and may reflect other regional plans. Ancillary chapters, however, do not contain actions or policies required of local government. Hence, they are entirely advisory and establish no new mandates or policies for the region.

Bridge chapters include the Strategy and Implementation chapters, functioning as links between the Core and Ancillary chapters of the RCPG.

Each of the applicable policies related to the proposed project are identified by number and reproduced below in italics followed by SCAG staff comments regarding the consistency of the project with those policies.

II. CONSISTENCY WITH REGIONAL COMPREHENSIVE PLAN AND GUIDE

A. Core Chapters

002 1. The Growth Management Chapter (GMC) includes both core and ancillary policies in the mandated portion of the chapter that are particularly applicable to this project. The GMC policies relate to the three RCPG goals: to improve the regional standard of living, to maintain the regional quality of life, and to provide social, political, and cultural equity. To achieve these goals, SCAG encourages the development of urban forms that enable individuals to spend less income on housing, minimize public and private development costs, and that enable the private sector to be more competitive, thereby strengthening the regional economy. Attaining mobility and clean air goals is also critical in enhancing the quality of life in the region and can be achieved through the development of urban forms that accommodate a diversity of lifestyles, that preserve open space and natural resources, and that are aesthetically pleasing and preserve the character of communities. Lastly, SCAG encourages the development of urban forms that avoid economic and social polarization and of reaching equity among all segments of society. The evaluation of the proposed project in relation to the following policies is intended to guide efforts toward achievement of such goals and does not infer regional interference with local land use powers.

Core Growth Management Policies

None applicable

003 2. The Hazardous Waste Management Chapter (HWMC)includes two hazardous waste goals: 1) to promote the following waste management hierarchy for hazardous wastes: a) waste reduction b) recycling and reuse c) safe disposal; and, 2) to ensure adequate, appropriate, and environmentally safe waste management capacity in the region.

SCAG staff comments. The proposed Project involves the processing of ore utilizing proven technologies. The leaching of ore and related processes involves the use of various hazardous materials and resultant waste materials. The adequacy of project mitigation and the feasibility of future mitigation for these impacts should be carefully considered by BLM and Imperial County during the project approval process. The Project is consistent with the RCPG hazardous waste management goal to ensure adequate, appropriate, and environmentally safe waste management capacity in the region.

B. Ancillary Chapters

The Growth Management Chapter includes the following policies which are applicable to the Project:

004 *3.20 Support the protection of vital resources such as wetlands, groundwater recharge areas, woodlands, production lands, and land containing unique and endangered plants and animals.*

SCAG staff comments. The Draft EIS/EIR acknowledges that the Project will result in the destruction of approximately 87 acres ofmicrophyll woodland (a sensitive habitat identified by the California Department of Fish and Game) and 1,215 acres of shrub/scrub vegetation habitat (desertsuculent scrub habitat). Measures are incorporated in the Project design to minimize the amount of habitat disturbed and to mitigate the adverse effects of the Project on microphyll habitat. Measures are proposed to compensate for the loss of habitat on a ratio of 3:1. The Project would adversely impact a variety of wildlife species which inhabit, move through, or forage within the Project site. Two threatened or endangered species would be impacted: Desert Tortoise and Gila Woodpecker. Injuries to wildlife and mortality would be expected. Mitigation measures are proposed to address impacts on wildlife and wildlife movement. The proposed Project involves the mining and recovery of gold and silver ore which occurs on economically viable production lands. The Draft EIS/EIR concludes that there would be no unavoidable adverse effects to geology from the Project, and that the goal of the Project is to mine precious metal mineral for beneficial use. The adequacy of project mitigation and the feasibility of future mitigation for these impacts should be carefully considered by BLM and Imperial County during the project approval process. The

Project is consistent with this ancillary RCPG policy.

005 *3.21 Encourage the implementation of measures aimed at the preservation and protection of recorded and unrecorded cultural resources and archeological sites.*

SCAG staff comments. The Draft EIS/EIR acknowledges that the Project will result in significant and unavoidable adverse effects, even after mitigation, on cultural resources and archeological sites. Specifically, the Project will adversely impact the Indian Pass-Running Man Area of Traditional Cultural Concern (ATCC), including the Trail of Dreams; seven (7) multi-component archaeological sites; and twelve (12) prehistoric trail sites in the Project mine and process area, each of which has been evaluated as eligible for the National Register of Historic Places. The Draft EIS/EIR contains extensive evidence of the importance and significance of the Indian Pass-Running Man ATCC to the Quechan Indian Nation. It documents the strenuous objections of theQuechan tribe to the development of the mine in the proposed location. The extensive physical and cultural anthropological investigation and Native American consultation (Section 106 consultation) by Dr. Michael Baksh of Tierra Environmental Services concluded that the following ten (10) effects would result from implementation of the Project:

1. The Project mine and process area will physically disturb features of religious-symbolic significance within the Indian Pass-Running Man ATCC.
2. The Project mine and process area will physically disturb significant Native American trails and will cut-off the ability of theQuechan to travel physically and spiritually along the Trail of Dreams.
3. The Project mine and process area will inhibit theQuechan's ability to conduct traditional religious activities at the Indian Pass-Running Man ATCC. In addition to physical disturbance, visual and aural intrusions into the ATCC will conflict with traditional practices.
4. The Project mine and process area will inhibit or destroy theQuechan's ability to use the Indian Pass-Running Man ATCC for traditional cultural education programs.
5. The Project mine and process area will have a cumulative adverse effect on traditional cultural sites in theQuechan territory.
6. The Project mine and process area will physically disturb all or parts of seven multi-component and 12 trail sites. This will result in data loss and the destruction of historic context.
7. Construction of ancillary facilities will physically disturb and add out-of-character visual and aural intrusions into the Indian Pass-Running Man ATCC.
8. Significant archaeological sites could be physically disturbed by construction.
9. Construction activities could disturb features that contribute to the NRHP-

eligibility of Camp Pilot Knob (the World War II encampment that was part of the overall Desert Training Center operations).

10. Construction of the transmission line could inadvertently disturb a significant archeological site.

The Draft EIS/EIR proposes an extensive list of mitigation measures to address effects identified as part of the Section 106 consultation. The adequacy of project mitigation and the feasibility of future mitigation for these adverse effects should be carefully considered by BLM and Imperial County during the project approval process.

In light of the cultural resource and archeological significance of the Indian Pass-Running Man ATCC, and the views expressed by theQuechan people as part of the Section 105 consultation, SCAG staff concludes that the Project is not supportive of this ancillary RCPG policy.

006 *3.22 Discourage development, or encourage the use of special design requirements, in areas with steep slopes, high fire, flood and seismic hazards.*

SCAG staff comments. The Draft EIS/EIR acknowledges that the Project will not result in any adverse erosion, drainage or flooding impacts that are not adequately mitigated. It also concludes that the Project would not result in violations of any applicable state water quality standard, nor violate any applicable toxic effluent standard or prohibition. Effects on groundwater quality are also stated as below the level of significance. The adequacy of project mitigation and the feasibility of future mitigation for these adverse effects should be carefully considered by BLM and Imperial County during the project approval process. The Project is supportive of this RCPG policy.

The Open Space and Conservation Chapterincludes two goals that are particularly applicable to this project. The goals pertain to: 1) resource production and, 2) resource protection.

Resource Production

007 • *Maintain adequate viable resource production lands, particularly lands devoted to commercial agriculture and mining operations.*

SCAG staff comments. The proposed Project is designed utilize in an appropriate and environmentally safe manner economically viable gold and silver resource production lands. Mining of these resources will also contribute to the economy of Imperial County, by providing new jobs. The project is supportive of this ancillary RCPG goal.

Resource Protection

008• *Develop well-managed viable ecosystems or known habitats of rare, threatened and endangered species, including wetlands.*

SCAG staff comments. See comments under Growth Management policy 3.20. The project is supportive of this ancillary RCPG goal.

Conclusions

The proposed Project is consistent with the above noted goals and policies in the Regional Comprehensive Plan and Guide. It is not supportive of ancillary policy 3.21. All mitigation measures associated with the project should be monitored in accordance with AB 3180.

SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS

Roles and Authorities

THE SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTSis a ***Joint Powers Agency*** established under California Government Code Section 6502 et seq. Under federal and state law, the Association is designated as a Council of Governments (COG), a Regional Transportation Planning Agency (RTPA), and a Metropolitan Planning Organization (MPO). Among its other mandated roles and responsibilities, the Association is:

- Designated by the federal government as the Region's***Metropolitan Planning Organization*** and mandated to maintain a continuing, cooperative, and comprehensive transportion planning process resulting in a Regional Transportation Plan and a Regional Transportation Improvement Program pursuant to 23U.S.C. §134(g)-(h), 49 U.S.C. §1607(f)-(g) et seq., 23 C.F.R. §450, and 49 C.F.R. §613. The Association is also the designated***Regional Transportation Planning Agency*** and as such is responsible for both preparation of the Regional Transportion Plan (RTP) and Regional Transportation Improvement Program (RTIP) under California Government Code Section 65080.

- Responsible for developing the demographic projections and the integrated land use, housing, employment, and transportation programs, measures, and strategies portions of the***South Coast Air Quality Management Plan*** pursuant to California Health and Safety Code Section 40460(b)-(c). The Association is also designated under 42U.S.C. §7504(a) as a ***Co-Lead Agency*** for air quality planning for the Central Coast and Southeast Desert Air Basin District.

- Responsible under the Federal Clean Air Act for determining***Conformity*** of Projects, Plans and Programs to the State Implementation Plan, pursuant to 42U.S.C. §7506.

- Responsible, pursuant to California Government Code Section 65089.2, for***reviewing all Congestion Management Plans (CMPs) for consistency with regional transportation plans***required by Section 65080 of the Government Code. The Association must also evaluate the consistency and compatibility of such programs within the region.

- The authorized regional agency for***Inter-Governmental Review***of Programs proposed for federal financial assistance and direct development activities, pursuant to Presidential Executive Order 12,372 (replacing A-95 Review).

- Responsible for reviewing, pursuant to Sections 15125(b) and 15206 of the CEQA Guidelines***Environmental Impact Reports***of projects of regional significance for consistency with regional plans.

- The authorized***Areawide Waste Treatment Management Planning Agency***pursuant to 33 U.S.C. §1288(a)(2) (Section 208 of the Federal Water Pollution Control Act)

- Responsible for preparation of the***Regional Housing Needs Assessment*** pursuant to California Government Code Section 65584(a).

- Responsible (along with the San Diego Association of Governments and the Santa Barbara County/Cities Area Planning Council) for preparing the***Southern California Hazardous Waste Management Plan***pursuant to California Health and Safety Code Section 25135.3.

Revised January 16, 1995

RESPONSE TO COMMENT LETTER G004 RECEIVED FROM J. DAVID STEIN, MANAGER, SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS, DATED JANUARY 16, 1998

Response to Comment G004:001: (The Following Response is Also Applicable to Comment G004:002.) Southern California Association of Governments' (SCAG's) project review activities are based on the Regional Comprehensive Plan and Guide (RCPG). The Growth Management Chapter is not applicable to the Project. The comment is noted.

Revisions to the Final EIS/EIR: None.

Response to Comment G004:002: See Response to Comment G004:001.

Response to Comment G004:003: The impacts associated with hazardous materials that may be used or generated at the Project site is addressed in the Draft EIS/EIR (page 4-121). Measures were incorporated into the Project design, provided by regulation, and identified as mitigation measures to reduce the adverse effects of the proposed hazardous material use to below the level of NEPA or CEQA significance (pages 4-123 through 4-125). The hazardous material use and waste management effects of the Project will be considered by the BLM and County of Imperial during their respective Project approval decision processes.

Revisions to the Final EIS/EIR: None.

Response to Comment G004:004: (The Following Response is Also Applicable to Comment G004:008.) The Project is consistent with the Southern California Association of Governments' (SCAG's) policy: "Support the protection of vital resources such as wetlands, groundwater recharge areas, woodlands, production lands, and land containing unique and endangered plants and animals" and the goal "Develop well-managed viable ecosystems or known habitats of rare, threatened and endangered species, including wetlands." The comment is noted.

Revisions to the Final EIS/EIR: None.

Response to Comment G004:005: See Response to Comment I012:001.

Response to Comment G004:006: Comment noted.

Revisions to the Final EIS/EIR: None.

Response to Comment G004:007: Comment noted.

RESPONSE TO COMMENT LETTER G004 RECEIVED FROM J. DAVID STEIN, MANAGER, SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS, DATED JANUARY 16, 1998

Revisions to the Final EIS/EIR: None.

Response to Comment G004:008: See Response to Comment G004:004.

3 COMMENTS LETTERS CONTAINING SUBSTANTIVE COMMENTS AND RESPONSES TO THESE COMMENTS ON THE DRAFT EIS/EIR

TRIBAL AGENCIES

Lorey Cachora **H001**
P.O. Box 894
Winterhaven, Calif
92283

Bureau of Land Management
1661 South 4th Street
El Centro, California 92243
Attention: Douglas Romoli
(909)697-5237

001 These letters are to be re-inserted for the extending comment period for the Draft Environmental Impact Statement (EIS)/Environmental Impact Report (EIR) for April 13, 1998. The following letter are dated February 13, 1997, April 23, 1997, February 10, 1997.
Thank you,

Lorey Cachora

QUECHAN INDIAN TRIBE

Fort Yuma Indian Reservation

P.O. Box 1899
YUMA, ARIZONA 85366-1899
Phone (619) 572-0213
FAX (619) 572-2102

February 13, 1997

Dear State Representative or Leader:

002 Please recognize these Quechan citizens who are recognized, respected members of the Ft. Yuma Quechan Tribe. As such, we hope you will also treat them in a respectful manner.

The mystery our people once lived with have chosen these individuals who are standing up for our culture. These people draw their abilities from another source that goes far beyond any laws of man, They are held accountable to a higher being than our laws of man. They are the roots of the Quechan people. They have successfully demonstrated their abilities to campaign for the Quechan people in the past.

They are fighting to cease all destructive operations that threaten the land of the Colorado River Tribes. They are opposed to any operation that will destroy our culture, religion or environment. This group fights to retain and protect all Tribal beliefs.

Thank you for your time in meeting with these respected members of the Ft. Yuma Quechan Tribe reservation.

Mike Jackson, Sr., President
Quechan Tribal Council

cc: Tribal Council

APRIL 23, 1997

Terry Reed
Bureau of Land Management
El Centro Area Office
1661 South 4th Street
El Centro, California 92243

Dear, Mr Reed

003 My wife and I were born at the Fort Yuma Indian Reservation, Winterhaven California. A Quechan tribal member by birth and being associated with the past Quechan elders who gave us the knowledge of what then was the old world, we were told to leave behind the ancient prejudices and manners and become that individual of all nation and melt into the new race of men and women, whose labor and posterity that will one day cause great change in the world. Today we have seen those changes and have accepted them, but we still speak fluent Quechan dialect, we are a loyal supporters of people who teach history and lecture about the past. Our closest linguistics are the Mohave and the Maricopa tribes, the similarity of those dialect enabled us to develop a deep comprehensive understanding of prehistory in the indigenous people along the Colorado River. We are to able explain the inseparable connection between the Colorado River people and their homeland. We have now reached the goal to interpret the entire history of the Quechan people and the people of the Colorado River.

Now, we try to devote our attention to domestic affairs and and have enhanced our social position and we have become a stanch defender of the rights of Quechan Indian Nation and supporter of a movement in protest of the destruction in Native American religious cultural resources. Due to action of the people today in the political arena, our struggle for independence is to play prominent role in the deliberation with tribal leaders, leaders of the community, and states to the enhancement of strength to our National Government at home and its reputation abroad.

The clarity of Quechan prehistory and history the directness of our vision brings to us Native Americans of today, the remembrance of our origins and a thrill of recognition. Our labor is founded on the basis of nature, self interest and we were scattered all over the area, the area we know as the western part which was once incorporated into one of the finest systems of population, and we should become distinct by the power of the different climates we inhabit. Instead we find thousands of facts, thousands of explanations over looked while many of the Native Americans try to convey to you the geographical knowledge of this country.

We try to acquaint you with the eras of several prehistory lifestyle values the foundation of our settlement, the spirit of our different charters, etc., yet they do not sufficiently disclose the genius of the people in the past and people of today. Our various native customs, our mode of agriculture, the innumerable cultural resources which today the industrious have of raising themselves to a comfortable and easy situation. Each time demanding more in the name of progress, and not being careful in examining the nature and principles of our association.

We are a new people, who act upon new principles; we must therefore entertain new ideas, and form new opinions. So that we can discuss legal problems pertaining to prehistory, history preservation act. As we have discovered on several accounts that the theory of preservation law does not apply in Native American situations, also the coverage of all legal matters that confront us in our daily lives does not deal with the huge field of concepts of the Native American. What laws their are devotes little attention to the complex world of the Native American.

004 The 1872 mining law is prime example, which gives the citizens of the United States or those intending to become citizens are provided with the opportunity to explore for, discover or purchase certain valuable mineral deposit on public domain lands in the United States. This act of law in Native American perspective has unconstitutionally assumed jurisdiction over area once used by Native American for traditional religious values.

While we try to preserve our cultural religious values we have very little power unlike the recipients of industrial subsidies. Although the government don,t intend on wasting money or destroy the environment, through political pressure the power of government becomes weak and are unable to defend themselves. We understand that subsidies are suppose to help communities and economies, but often do the opposite through promoting environmentally harmful activities such as destruction of Native American religious values, losses like these are leading to the perverse conclusion that we as Native Americans would be better off to reclaim many public lands.

What is presently proposed is illegal, in the eyes of the public and the Native American perspective. The 1872 mining law gives the Miming Companies, Industries, and Contractors the privilege to destroy any Federal lands as long as they comply with practicable and appropriate procedures. "This process is called being responsible, being environmentally sensitive, taking mitigation measures." In this area there are no mitigation measures available except avoidance."

Because of this mining law tribes of all nations have been hampered by this ancient laws and statutes in and out of our community development.

005 As Bureau of Land Management with Federal Lands, you are permitted by law to accommodate access to and ceremonial use of Indian Scared sites by Indian Religious practitioners and avoid adversely affecting physical integrity of such sites. "Sacred sites" means any specific, discrete, narrowly delineated location on Federal Land that is identified by an Indian Tribe or Indian individual determined to be an appropriately representative of an Indian religion.

This letter is only part of the Quechan Native American perspective and concerns, to the proposed area of Indian Pass, we hope you take this opportunity to identify our cultural history of this region as serious issues.

Sincerely,

Lorey Cachora

Similar letter sent to enclosed list.

cc:

QUECHAN INDIAN TRIBE
WINTERHAVEN, CALIFORNIA
CULTURAL

February 10, 1997

Pat Weller
Bureau of Land Management
1661 S. 4th Street
El Centro, California 92243

Dear Ms. Weller:

006 We are submitting this letter concerning the distribution, life history, habitat requirements, on Indian Pass Area. We have no doubt that the area around the proposed Chemgold operation was utilized by pre contact Native American as travel route and was a source for tool-grade lithic. The old Quechan North Dweller (Mathyaly-cadom) recognize its benefits the site had for even older people of Quechan of the North.

Back then they viewed this area to be one of physical features and place to obtain materials for cornerstone. Further down the road on Indian Pass is a rock art site indicating that this area is a special place for the people of Yuman Tribe of the Colorado River. This site has spiritual traditional significance involving the Yuman Tribes. The boundaries of this proposed operation extends above and beyond the material point.

The distribution life history of the Quechan is similar to everyone else in the world, but perhaps more intensely than most. We view the world as constantly changing and developing. However, it remains part of the earliest answer that remain true, but new conditions demand new considerations.

Each generation of Quechan people has, in its own way, reviewed the questions and stated the answer. The researchers of early man view with skepticism the validity of the Quechan history as told to them. The project in question is within the Quechan boundary that contains some of the most abundant prehistoric sites left by the old Quechan and their ancestors in the Picacho Basin and have attributed to many Quechan cultural patterns.

007 We see skepticism of Native American interpretations in all current Archaeological survey reports and this cynicism is causing conflicting philosophical and historical theories between Native American and Anglos and that industrial developers use these differences to get what they want at any cost to other people. With understanding of who and how theories are formulated and become dogma, we can then presume that the doctrine of sovereign equality and diplomatic influence have been restated and conditioned to fit the needs of modern times. Again, we can conclude from these expressions on the Chemgold reports that the United States government wanted, without much doubt, to hold on to their first perceptions. This document is often quoted as the United States first reflection on Indian relations as follows:

> The utmost good faith shall always be observed towards the Indians, their lands and property shall never be taken form them without their consent; and in their property, rights and liberty, they shall never be invaded or disturbed, unless just and lawful wars authorized by Congress; that laws found in justice and humanity shall from time to time be made, for preventing wrongs being done to them, and for preserving peace and friendship with them.

It is becoming increasingly more apparent to the Indian for Congress or somebody in the government wants to create a monopoly of Indian Relations. These actions are being undertaken without the consent of the Indians.

These actions are being undertaken for we as Native Americans do not have such laws when it comes to protecting our own values. The values you call " Cultural Resources." One cause is the vast number of treaties that the non-Indians did not observe or are aware of when they divided these lands, and then subdivided them so that ownership is not only tangled in generations of litigations, but also inherit all Native American Cultural Resources, which was once the property of Native American History. Even though the government hold the title to such properties, the Native American then too, should come under a host of legal definitions to protect our Native American Cultural Resource History. It is a matter of cultural conflict over the meaning of land ownership. The United States Government has violated its treaties with our Nations because our own Tribal Leaders of the past have failed to recognize the importance of our history.

We frequently emphasize to other government agencies the need of protecting archeological and historic resources that no matter how small are the concentrations of lithic material, site, trail segment, alignments, rings. These natural resources provides us with significant information regarding the past events and land use, particularly with regards to questions concerning the use of makers to display cultural religious ethnic identity, which we are applying to today's world. Unfortunately we may witness a new change in some of these sites in the near future.

008 Within the site in question are habitat requirements are several areas that we consider to be very highly religious. We will mention only two. One is what you call the running man, a cobble stone geoglyph in the form of a running figure and a small cleared circle next to a trail, and rock alignment oriented north to south bisecting the trail. Associated with these sites are quartz flakes and ceramic scatter. Even if these are recent addition it was still used in deep religion fashion known as the window of present, past, future. In 1940s two tribal members used this area while seeking information to lengthy songs of the past making this area to be of symbolic significance in today's world.

009 We further recommend that no berm, barrier, or structures be constructed or installed on the site that will cast an enormous shadow during the morning hours and completely alter its purpose and destroy its future use forever. However, all site development should not be higher than forty (40) feet. Without a height limitation, there is potentiality of altering the wind pattern that flows from a westerly direction. Any change of wind pattern will affect the Winterhaven, California and Yuma, Arizona areas by affecting the capability of current flows carrying out any illness or diseases from our area and may also create other unforeseen problems.

010 Secondly a present day Quechan singer states that this area is a belief, religion on the sanctuary of man to communicate with his maker, and a place of retreat to do a solitude. It is a well-known fact that all civilizations

throughout the world also have important holy places. So why destroy a place such importance to the Quechan Indian Tribe? Would Christians and Moslem stand by to see shrines in Jerusalem? These are the world of today singers regardless of heritage! .

011 The potential disrupting of historical, cultural, and religious sites by developing the project question creates community controversy throughout the Fort Yuma Indian Reservation. We strongly use that the **proposed project be denied** or that a **Focused Environmental Impact be required prior to approval**. As part of the environmental focusing, an archeological study needs to be conducted. We request being notified of any Notice of Preparation and we also want a chance to comment on a Draft Environmental Impact Report, regardless if this document if prepared under California Environmental Quality Act (CEQA) or Federal National Environmental Protection Act (NEPA).

Should there be any questions, please do not hesitate to contact me at (619) 572-0213.

Sincerely,

Pauline Owl, Chairperson
Quechan Cultural Committee

Eldred Millard, Vice-President

Barbara Antone, Member

Pauline P. Jose, Member

Milton Jefferson, Member

Willa Scott, Member

Starla Cachora, Member

Lorey Cachora, Consultant
and Tribal Member

CC: Tribal Council

PO/lgm

RESPONSE TO COMMENT LETTER H001 RECEIVED FROM LOREY CACHORA, QUECHAN CULTURAL COMMITTEE, FORT YUMA INDIAN RESERVATION, NO DATE

Response to Comment H001:001: See Response to Comment A001:005.

Response to Comment H001:002: See Response to Comment A001:005.

Response to Comment H001:003: See Response to Comment A001:005.

Response to Comment H001:004: (The Following Response is Also Applicable to Comments D002:002, I006:010, I012:024, I012:030, I012:043, I012:044, I012:045, I012:049, I013:330, I013:347, I013:356, I013:366, I015:011, J012:007, J028:004, J028:005, M001:001, N019:005, N019:006.) (See Also Responses to General Comment 001 and Comments D002:005, E001:013, I012:023, I012:039, and J008:004). The environmental documents prepared for the Project, including the Draft EIS/EIR and its appendices, have been prepared in compliance with the National Environmental Policy Act, the National Historic Preservation Act, the California Environmental Quality Act, and other applicable Federal and state laws. As indicated in Section 3.6.2.3. (pages 3-85 through 3-91) and in Section 4.1.6.3. (pages 4-81 through 4-83) of the Draft EIS/EIR, the Indian Pass-Running Man ATCC and other sites of religious significance are evaluated as eligible for the NRHP. The BLM (and Imperial County, as appropriate) will consider all relevant Federal and state laws and regulations in deciding whether to approve or deny the Project (see also Response to Comment 010:002). However, specific discussion of the agency decisions is an issue which the BLM considers more appropriately as part of the decision-making process regarding the Plan of Operation, rather than as part of the environmental assessment required under NEPA, and this issue will be appropriately addressed in the Record of Decision.

Revisions to the Final EIS/EIR: None.

Response to Comment H001:005: See Responses to Comments A001:005 and E001:013.

Response to Comment H001:006: See Response to Comment A001:005.

Response to Comment H001:007: See Responses to Comments D002:005 and I012:001.

Response to Comment H001:008: See Response to Comment I013:337.

Response to Comment H001:009: (The Following Response is Also Applicable to Comment I013:354.) As described in Section 2.1.5. (page 2-13) and Section 2.1.8.1. (page 2-16) of the Draft

RESPONSE TO COMMENT LETTER H001 RECEIVED FROM LOREY CACHORA, QUECHAN CULTURAL COMMITTEE, FORT YUMA INDIAN RESERVATION, NO DATE

EIS/EIR, the waste rock stockpiles and the heap would each be constructed up to a maximum height of 300 feet above the ground surface, and would rise no higher than an elevation of 1,100 feet AMSL. This elevation is equivalent to, or substantially less than, the elevation of the general topography of the mountains which surround the Project area on the north, east and south. Because the elevation of the Project features do not generally rise above the height of the surrounding mountains, and because the Yuma/Winterhaven area is located so far (approximately 18 miles to the southeast) from the Project mine and process area, effects to the existing wind patterns in or around Yuma/Winterhaven are not expected.

The waste rock stockpiles and the heap would each create new shadows in areas where equivalent shadows do not now exist. As stated in Section 4.1.6.2. (page 4-83) of the Draft EIS/EIR, ". . . the construction of the waste rock stockpiles and heap would cause a permanent, out-of-character visual intrusion that would severely disrupt cultural use of the Indian Pass-Running Man ATCC." The comment indicates that the shadows generated by these Project features would add to this adverse effect, and the Final EIS/EIR will be altered to reflect this.

Revisions to the Final EIS/EIR: The fifth sentence of the first paragraph on page 4-83 of Section 4.1.6.2. of the Draft EIS/EIR is altered to include the effects of the shadows from Project facilities on the impacts to the ATCC as follows: "Additionally, because views into and from the Indian Pass-Running Man ATCC contribute to the significance of the Indian Pass-Running Man ATCC, the construction of the waste rock stockpiles and heap would cause a permanent, out-of-character visual intrusion, including shadows, that would severely disrupt cultural use of the Indian Pass-Running Man ATCC."

Response to Comment H001:010: See Response to Comment A001:005.

Response to Comment H001:011: See Response to Comment A001:005.

3 COMMENTS LETTERS CONTAINING SUBSTANTIVE COMMENTS AND RESPONSES TO THESE COMMENTS ON THE DRAFT EIS/EIR

ORGANIZATIONS/CORPORATIONS

GLAMIS IMPERIAL CORP.
A Subsidiary of Glamis Gold, Inc.

I001

Mr. Terry Reed
U.S. Dept. of Interior
Bureau of Land Management
El Centro Resource Area
1661 South 4th Street
El Centro, CA 92243-461

via Facsimile

December 15, 1997

Mr. Reed:

During the public hearings held on the Imperial Project on December 10th and 11th, comments were made concerning the adequacy of the vegetative surveys. In response, I asked Dan Purvance to review the dates the vegetation surveys were run, considering the rainfall surrounding those dates.

Enclosed is a memo from Dan that outlines that not only were vegetation surveys run during the proper time of year (a specific comment during the hearings), but they were carried out following record rainfalls during the late fall of 1995, insuring germination (another comment).

It is our hope that providing you this information will remove the concerns you might have had following the hearings.

Once again, thank you for your time and effort.

Sincerely,

Steve Baumann
Vice Pres. & General Manager
Glamis Imperial Corporation

cc: EMA
Jurg Heuberger

P.O. BOX 1177, WINTERHAVEN, CALIFORNIA 92283 (760) 337-1891 (520) 783-1891 FAX (520) 782-9921

December 12, 1997

MEMORANDUM

To: S.L. Baumann
From: D. Purvance
RE: Imperial Project Botanical Survey Dates/Summary

001 To date, a total of three (3) Botanical/Vegetation reports have been prepared and attached to the Imperial Project DEIS.

Listed below for each report are the dates botanical surveys were performed and a brief summary regarding report timing, and statements relating to vegetation measured.

Report:	BIOLOGICAL SURVEY REPORT, NOV. 1997 DEIS, APPENDIX H
Author:	T. Rado
Survey Dates:	July, August, September 1994, February, April, May, August and Sept. 1995
Report Issued Date:	May - September 1995,

Summary:

The Nov. 1997 DEIS, Page 3-56, references dates of systematic botanical surveys (vegetation inventory) for the entire project area. Appendix H gives detailed explanation of why there are multiple dates. Specifically, Appendix H, Page.19, states plant surveys during 1995 were scheduled to provide coverage throughout the phenological periods (phenological means timing of the emergence of plants) for the sensitive ephemeral species that could occur within the project area.

Contract biologist, Pete Woodman performed the majority plant inventory surveys. He was specifically scheduled to be onsite in February 1995 again in April 1995. The April survey was timed to catch late spring bloomers. Late summer, August and September surveys were timed to catch monsoon season plant growth.

Report:	VEGETATION BASELINE SURVEY, NOV. 1997 DEIS, APPENDIX F
Author:	S. Bamberg
Survey Dates:	June 2 & 3, 1995
Report Issued Date:	August 1995

Summary:

Bamberg makes the following statement in the report, Page 3, "The results of the vegetation surveys should be interpreted as representing the highest cover and diversity possible for the Imperial Project area." This professional opinion is based on his experience in the area and is justified by record winter rains which occurred during winter/spring 1995.

Bamberg performed transects to quantify vegetation characteristics, i.e. cover, density and diversity. If you read the entire report, he does a good job explaining and defending the rationale behind the statement. Unfortunately, the report is rarely referenced in its entirety. What's important, is that the surveys were performed at the appropriate time to observe plant growth not the month of the year.

Report: WASH VEGETATION & HABITAT SURVEY, 1997 DEIS, APPENDIX G
Author: S. Bamberg
Survey Dates January 21-24, 1997
Report Issued Date: May 1997

Summary:

Bamberg again makes the statement in the report, Page 3, "The growth measured during the baseline survey was estimated at the highest in the past 15-20 years, and therefore, the results reported in the baseline vegetation survey should be considered as the highest cover and diversity possible for the Imperial Project." Again, this professional opinion is based on his experience in the area and is justified by the 22 month drought period preceding the survey.

Bamberg performed transects to quantify wash vegetation/ habitat and count all trees in the washes. Again, if you read the entire report, he has given adequate explanation and relates the statement to comparisons made between the June 1995 and the January 1997 survey results. The purpose of the report was to provide only initial baseline data for wash habitat and will be followed by many more surveys.

RESPONSE TO COMMENT LETTER I001 RECEIVED FROM STEVE BAUMANN, VICE PRESIDENT AND GENERAL MANAGER, GLAMIS IMPERIAL CORPORATION, DATED DECEMBER 15, 1997

Response to Comment I001:001: See Response to Comment I005:012.

CENTER for SCIENCE in PUBLIC PARTICIPATION
224 North Church Avenue, Bozeman, MT 59715 Phone (406) 585-9824 / Fax (406) 582-8675
"Technical Support for Grassroots Public Interest Groups"

CSP²

RECEIVED
98 FEB 13 PM 12:59
BUREAU OF LAND MANAGEMENT
RIVERSIDE, CA.

COMMENTS
on the
DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS)
on the
IMPERIAL PROJECT

January 23, 1998

TO		INIT	DATE
	DM		
	DDM		
	DSR		
	EA		
	ADMIN		
	RC&W		
	P&RR		
	L&M		
	AMs		
X	RETURN TO CENTRAL FILES		

The comments in the first part of the report were made my David M. Chambers, Ph.D. The cost-benefit analysis was done by James Kuipers, P.E.

ALTERNATIVES TO THE PROPOSED ACTION

001 DEIS Alternatives

The alternatives evaluated in the DEIS include deleting one or two of the three open pits from the project. The West Pit and East Pit alternatives do not require any offsite mitigation for open pits that would remain, unlike the primary proposal. [Table 2-6, p. 2-55 and Table 2-7, p. 2-59] These alternatives also do not consider the effect of a reduced mining rate, which would lessen the capital requirements for the alternatives.

Both of these alternatives would make the project significantly smaller and, the DEIS concluded, uneconomic. However, by failing to be creative in selective in determining how these alternatives were defined, they were probably doomed to failure from the start.

The DEIS also states that "... the EIR need examine in detail only the [alternatives] that the lead agency determines could feasibly attain most of the basic objectives of the project." [p. 2-51] The objectives for the project are to "... profitably recover as much of the precious metals discovered on those mining claims which it owns in the project mine and process area as possible; and to fully exercise its rights under the General Mining Law of 1872." [p. 2-52] The issue of how the objective of exercising its rights under the Mining Law is to be measured aside, it is relatively clear how the proponent can measure the potential economic success of the project.

The problem with these alternatives is that they are not realistic alternatives for the project. They leave a significant amount of the resource untapped, and the only way they lessen the damage to other resources is merely by scaling down the size of the project – and hence the magnitude of the damage. But the scaled down project alternatives really offer no significant changes to the project.

The DEIS also analyzes the option of requiring complete backfill of all three pits, and likewise concludes this alternative is uneconomic. It is also stated in the DEIS that, "The impacts of the Complete Backfill Alternative on vegetation and plant habitat would essentially be identical to those under the Proposed Alternative." [p. 4-148] It is hard to accept this assertion when complete backfill would remove all of the waste rock piles, and their steep slopes, and replace them with level ground. The proposed action would leave large waste rock piles with steep slopes to be revegetated. Revegetation success on the level ground would be significantly enhanced, both in the short and long term, with the complete backfill option.

002 **Underground Mining**

The alternative that should be evaluated in detail in the DEIS is the underground mine alternative. Unlike the two alternatives analyzed in the DEIS, an underground alternative could offer some significant improvements in the impacts of the project. The project, and all the alternatives, will have at a minimum "significant and unmitigatable" impact on the visual character of the project area. [p. 4-99, 4-100] An underground mine project could be designed with significantly less surface disturbance, especially in the mine area itself, and could "substantially reduce" impacts to cultural and paleontological resources [see the discussion on Impacts of the East Pit Alternative on p. 4-141].

The amount of waste rock from underground mining would be significantly less than from an open pit mine, leaving less surface disturbance and visual impact. More of the gold resource could be recovered. Heap leaching will recover only 75% of the gold contained in the ore. If an underground mining method were employed, it would probably be coupled with a vat-leach gold recovery system. Vat leach systems typically recover 90% to 95% of the gold in the ore. So revenues would be greater, even though costs are higher. Underground mining would also allow all of the resource to be mined. There is a part of the presently defined resource that will not be mined because it is too deep to access with the open pit method.

Vat leaching would also mean that fine, wet tailings would be produced, instead of the relatively large, dry tailings left in the heap leach process. These wet tailings could be transported by pipeline to a site several miles from the mine for deposition, removing them from the immediate area of the mine, and proximity to the sensitive wilderness and archeological areas. Wet tailings would mean that less area at the minesite would be disturbed. Waste rock could be backfilled into the mine, and tailings disposed of offsite. There would be no heap remaining on the site. In the complete backfill alternative analyzed in the DEIS it was stated that, "Because the heap would remain as a large alteration in the topography, the effect of the Complete Backfill Alternative on visual resources would be above the level of significance." [4-150] This implies that if the heap and waste rock piles did not remain after mining, the effect on visual resources might be less than "significant."

Wet tailings would mean less water lost to evaporation, but more water tied up in the tailings as they are deposited. A paste tailings system, technology which is being widely employed today, would significantly lessen the amount of water required for the vat processing system.

Underground mining, which is already being employed in the area, would offer significant improvements to the loss of non-mining resources in the project area. The economics of an underground mine can only be quantitatively evaluated if this option is considered in detail in the EIS, and if an genuine effort is made to creatively cut costs for this alternative. It is always easy to render an alternative "dead-on-arrival" if standard, uncreative assumptions are made for the process. If these same assumptions were used for the design of the proposed alternative, most mines would be uneconomic. It is the goal, in fact the job, of mine managers and engineers to put creative thinking into the operating decisions made for a mine. Yet this same approach is seldom taken in designing alternatives for an EIS.

FACILITY DESIGN FOR STORMWATER

003 **Probable Maximum Precipitation (PMP) Event**

Stormwater bypass and collection facilities are being designed with the 1-hour PMP storm as the design/worst-case event. Use of a 1-hour event is not standard. Typically a 24-hour event is used as the design event.

An explanation should be given in the EIS as to why a 1-hour PMP event, rather than the 24-hour PMP or other storm, is not being used as the worst-case event.

004 Heap Leach Pad Drawdown Containment

The maximum amount of containment for the heap leach pad is being based on the 1-hour PMP, and the assumption that the mine will experience a maximum of 24 hours without power.

A heap leach pad contains a tremendous amount of water, especially a pad that is fully loaded with ore. This water is continuously being pumped/recycled from the bottom of the pad to the top. If the recycling pumps are turned off, the water in the pad will steadily drain down to the lowest point in the system. A conservative pad design assumes that complete draindown will occur, and that the pad containment elements (i.e. the pad and collection ponds) would have enough room to contain the entire draindown of the system. The designers of this project are assuming they will only experience, at a maximum, 24 hours without pump operation – whether this is due to power failure, pump failure, any other failure, or an act of nature.

The pad solution contains high levels of cyanide and dissolved metals. It is important that this solution not escape to the outside environment. If the pad solution-retention systems are not designed to fully contain a pad draindown, the reasons for this, and the potential consequences, should be thoroughly discussed in the EIS.

005 GROUNDWATER MONITORING

A partial leak detection system is to be installed under the heap leach pads.

> "The vadose zone[1] monitoring system is currently designed to consist of perforated liquid collection pipes in a gravel bed installed beneath the liner system an above a 20-mil PVC sheet (see Figure 2.6). This vadose zone monitoring system would underlay approximately 25 percent of the leach pad liner, and be located directly under the main process solution collection pipes, the lowest points of the heap leach pad liner." [p. 2-19]

It is standard procedure for leak detection systems to underlie the entire area of the heap leach pad, as well as the process solution ponds. The EIS should explain, at a minimum, why this departure from conventional practice is being proposed. Major leaks could occur at any point in the heap-pad system, due to punctures in the pad, or liner seams being tearing, etc. The leak detection system should underlie the entire heap leach pad unless there are special circumstances that allow lesser coverage.

006 Pit Lakes

The projected bottoms of the East Pit and West Pit will both be below the groundwater level. [p. 2-11] The West Pit is to be backfilled, but no backfilling is planned for the East Pit. However, if evaporation is not greater than water inflow in the East Pit causing a pit lake to form, the East Pit is to be backfilled to the level of the lake that is formed. [Table S.1, p. S36] The DEIS predicts that there will be no pit lake, since the evaporation rate has been calculated to be 170 times greater than the inflow rate of water from groundwater and precipitation.

However, even if no pit lake will form, it would be a good idea to backfill the pit to the groundwater level. If the pit is not backfilled to this level, groundwater will seep into the pit and evaporate. This would result in a permanent, and unnecessary loss of groundwater in a region where water is very scarce. This

[1] The vadose zone is an area of unsaturated ground between the surface and the top of the water table.

loss could conceivably impact other springs or seeps, or could attract wildlife to the bottom of the pit, where they could be trapped or subjected to increased predation.

RECLAMATION

007 **Waste Rock**

The waste rock stockpiles are to be "... a maximum height of 300 feet, and would be ultimately reclaimed to have overall 2 horizontal to 1 vertical (2H:1V), or 30 degree, final slopes." [p. 2-13] Conventional practice for reclaiming waste rock and tailings facilities is to have final slopes of 3H:1V, or shallower. In most states slopes steeper than 2.5H:1V would not be allowed. If slopes are over steepened, vegetation and soil cover will be washed down slope during major precipitation events.

Even though precipitation events in the desert are infrequent, on average, than storms in other areas, large events can still occur. Vegetation density, even at its optimum, is also less in the desert, so steep slopes are more susceptible to erosion. Even the waste rock piles, which contain some large material, will have a significant amount of "fines" that will be readily erodible. Final reclaimed slopes should be 3H:1V if possible, but no steeper than 2.5H:1V, for both the waste rock and heap leach pads.

Erosion is likely, and revegetation problematic, and long term stability is more problematic, at slopes of 2H:1V.

008 **Revegetation Criteria**

Revegetation criteria are essential for measuring the success of a revegetation effort, and as a standard for subsequent release of the reclamation bond. These criteria should reflect the different slopes and aspects[2] of the target areas. The revegetation criteria in the DEIS propose that reclamation/revegetation efforts be considered successful when 30 percent or more of the vegetation density and 33 percent or more of the vegetation diversity of the perennial species, compared to off-site similar areas, has been achieved. [p. 2-48 and Reclamation Plan, p. 66]

The critical consideration here is whether these criteria will insure that revegetated slopes will hold their soil cover in large storm events, and will lead to the successful reintroduction of native plant species to the site. The 30/33 percent figures proposed may be too low. The State of Montana, in a recent EIS for a mine in a semi-arid climate, required 90 percent revegetation of native plants, compared to similar slopes and aspects.

It is questionable whether 30% revegetation is adequate to prevent significant erosion on a steep slope, even in a desert climate.

009 **Revegetation Monitoring**

The Reclamation Plan proposes that "... the monitoring and bond period for revegetation be set at a ***maximum*** of five years..." Yet in a following paragraph the Reclamation Plan states, "Revegetation monitoring will be conducted for a ***minimum*** of five (5) years ..." [Reclamation Plan, p. 68] These statements appear to be in conflict, at least with regard to the monitoring. Clarification is needed.

Monitoring the revegetation effort is important because there can be significant mortality of newly established species in the first few years. Entire species of plants can die off, and significant amounts of groundcover can disappear as plants are stressed by lack of water, lack of nutrients in the soil (e.g. after fertilizer that was initially applied is used up), or exposure to the harsh conditions at the site.

---

[2] Aspect refers to the orientation of a slope relative to the sun.

Monitoring and the revegetation part of the reclamation bond should take place until the revegetation criteria have been met.

010 Financial Assurance

The calculated physical reclamation bond is approximately $700,000. [p. 2-49] This is not sufficient to provide the pit backfill called for in the DEIS, and in fact it is evident from the DEIS that backfilling will not be required for even the Singer or West Pits should the mining operation cease before these pits have been backfilled. [see p. 4-13] If mining were to cease, because of low gold prices like those being experienced in today's market, the project could be abandoned without proper funding to perform the promised mitigation. Failure to backfill either the West or Singer Pits would have a greater effect on visual resources than predicted in the DEIS, since even the partial backfilling discussed in the DEIS would have a "substantial" impact on visual impacts and other aspects of the mitigation for the project. [see Table S.1, especially p. S-55]

A bond adequate to perform the tasks discussed in the DEIS, including backfill of the West and Singer Pits should be required by the State or BLM.

In addition, the calculated bond amount may be insufficient. There is no allocation in the bond calculations for (1) a capital contingency, (2) mobilization/demobilization, and (3) engineering design. [Reclamation Plan, Table 7, p. 71] Capital contingency provides a buffer in case some of the capital estimates have been too low, and the mobilization/demobilization and engineering design are important if the government has to take over reclamation from the project operator. The State of Montana requires that these factors be included in bond calculations for mines. In addition, Montana uses as administration charge of 15%, while 7% has been used for the Imperial Project calculations. If the BLM/California were to use the same bonding structure as Montana, the cost of the bond would increase 20%.

The calculation of the present value of the Heap Neutralization Cost in the Reclamation Plan [Table 8], appears to use a Discount Rate of 10% in calculating the Present Value of the bond. 10% is too high a Discount Rate to be used for a public bond. If a 6% discount rate were to be used, it would more than double the present value of the bond. A discount rate of 3% would increase the present value of the bond approximately four times the amount proposed in the Reclamation Plan. Whether inflation rate was factored into the bond calculations can not be determined from the Tables in the Reclamation Plan.

The BLM and State should carefully review the costs and assumptions used to calculate the bond, and to establish the present value of the bond (i.e. an amount of money placed in escrow when the mine opens), and discuss these assumptions and calculations in the EIS.

011 BACKFILLING

The present project plans will leave 165 acres of the East Pit unreclaimed. [Table 2.1] As compensation, the EIS calls for 165 acres of lands located off-site, which were previously disturbed by mining, to be reclaimed. If the East Pit were to be backfilled, the monies allocated for this off-site compensation could be applied toward the backfilling.

In addition, backfilling means that more money will be spent in the local area. This means more local jobs, and more secondary economic effects, for a longer period, for the local economy.

COST-BENEFIT ANALYSIS OF COMPLETE PIT BACKFILL

012 Introduction

The objectives of the economic cost-benefit analysis are: 1) review and analyze company provided information for the project, 2) review company and industry information and establish costs for pit backfilling; 3) establish base case and pit backfill economic cases and make cost-benefit comparison, and 4) make conclusions and recommendations with regard to the findings.

A description of the project is contained in Section 2. The alternative for complete pit backfilling and associated costs are discussed in Section 3. Section 4 examines base-case and pit backfilling economics on a pre-tax cash flow basis and by comparison the economic cost-benefit for pit backfilling is determined Conclusions and Recommendations regarding the economic cost-benefit of pit backfilling are contained in Section 5

The purpose of this report is to provide an objective independent analysis of the alternative for pit backfilling. The information within this report is based on a review of available relevant information as identified through Glamis Imperial's permitting process for the site as well as other company supplied information, as indicated in the references section of this report.

013 Project Description

The Imperial Project is a proposal by Glamis Imperial Corporation (Glamis) to develop an open-pit, precious metal mining operation using heap leach processing. It is located on public lands administered by the Bureau of Land Management in extreme southwest California. Mine evaluation studies by Glamis have delineated a mineable ore resource for the Imperial Project using a cut-off grade of 0.007 ounces of gold per ton and a gold price of US $400 per ounce, of 90-million tons grading 0.017 ounces per ton, with a strip ratio of 3:1 and containing approximately 1.5-million ounces of gold. The operation would mine approximately 9.4-million tons per year of ore and waste and produce approximately 100,000 ounces of gold per year over a 12 year mine life.

The project as proposed would consist of three open pits, two waste rock stockpiles, a run-of-mine heap leach pad and pond facility, a heap leach precious metal recovery plant, and ancillary facilities. The facilities would result in approximately 1,302 acres of surface disturbance. Up to 150-million tons of ore would be mined and deposited on the leach pad where the precious metals would be leached.

The project is currently undergoing permitting, and a second Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR) was released for public comment in November 1997 The project proponents hope to begin construction of the project in 1998 contingent upon obtaining all necessary regulatory approvals.

014 Mine Plan

According to the Draft EIS/EIR, up to 300-million tons of waste rock would be mined and deposited in the waste rock stockpiles or the mined out portions of two of the open pits. The daily mining rate would typically be 130,000 tons per day. The ore deposit is located in three separate pits: the West Pit, the

Singer Pit, and, the East Pit. The relative sizes, and contained ore and waste in each pit is indicated on Table 2.0.

Under the proposed action, mining of the three pits would be phased, and would each include drilling, blasting, loading and hauling. Waste rock would be placed on either of the two waste rock stockpiles, located adjacent to the pits, or into one of two of the previously mined pits. The West Pit would be the first pit mined, followed by the Singer Pit, followed by the East Pit; both the West Pit and the Singer Pit would be entirely backfilled with waste rock under the Proposed Action.

Table 2.0
Imperial Project Open Pits - Tonnages

Pit	Ore (million tons)	Waste (million tons)	Total (million tons)
West Pit	50	75	125
Singer Pit	10	15	25
East Pit	90	210	300
Total	150	300	450

015 **Complete Pit Backfilling Alternative**

According to the Draft EIS/EIR approximately 100-million tons of waste rock be backfilled into the West Pit and Singer Pit under the Proposed Action, leaving 200-million tons of waste rock to be excavated from the waste rock stockpiles and placed into the open East Pit. If the equipment used for mining the Proposed Action is retained and used to backfill the East Pit, and assuming the a backfill rate of 130,000 tons per day, it would take approximately 4.33 years beyond the end of mining to move the waste rock into the East Pit to fill the East Pit to grade. Backfilling being concurrent with final leaching and neutralization of the heap and final reclamation, the life of the Complete Backfill Alternative would not be longer than the Proposed Action. Using a range of $0.40 to $0.50 per ton as the cost of loading, hauling approximately one mile to the East Pit, and dumping this stockpiled waste rock, Glamis estimated the cost of the Complete Backfill Alternative at approximately $80- to $100-million. Glamis has stated that the Complete Backfill Alternative would not be an economically viable project, as it does not meet the objective of profitably mining the precious metals.

016 **Backfill Volumes**

Broken rock occupies a greater volume than the same volume of solid rock because of expansion. Generally, broken rock has a volume or "swell factor" ranging from 1.3 to 1.7 times that of solid rock. Table 3.0 shows the volumes of waste rock and ore for the Imperial Project assuming a typical swell factor of 1.5 and a density of 2.25 tons per cubic yard for in place material. The volume of broken waste rock equals that of all the in-place material mined from the three pits. Therefore, the Complete Pit Backfill Alternative would use all of the waste rock available to completely backfill all three open pits. The heap

leached ore would be left on the leach pad.

Table 3.0
Imperial Project Open Pits - Volumes

Pit	In Place Ore (million cubic yards)	Broken Ore (million cubic yards)	In Place Waste (million cubic yards)	Broken Waste (million cubic yards)	In Place Total (million cubic yards)	Broken Total (million cubic yards)
West Pit	22	33	33	50	55	83
Singer Pit	4	7	7	10	11	17
East Pit	40	60	93	140	133	200
Total	67	100	133	200	200	300

017 **Backfill Sequencing**

The sequencing of pit mining is dictated by the logistics of mining and economic considerations. Glamis has determined that their needs are best served by mining the West Pit, followed by the Singer Pit, finally followed by the East Pit. This allows the West Pit and Singer Pit's to be backfilled with waste from the East Pit. The result of this sequencing is shown on Table 3.1 as Option A. For the purpose of considering complete pit backfilling, Option A is equal to other sequencing options in terms of optimizing the percentage of total waste rock moved to stockpiles prior to rehandling, as indicated by comparing Option A with other options presented in Table 3.1. By mining the smaller pits first and the largest pit last, the amount of waste rock backfill that does not require re-handling is optimized at 67% of the total waste rock mined. This does not include any scenario to simultaneously mine and partially backfill the East Pit, which would likely be further investigated by Glamis if pit backfilling were required by the permit. This would involve optimizing the mine plan while at the same time taking into account the requirement for backfilling. This could result in a different mine plan, with significant cost savings, indicating that the scenario considered under the Draft EIS/EIR is a worst-case backfilling scenario from the standpoint of material being moved.

018 **Backfill Unit Costs**

Backfilling costs can be estimated similar to mining costs using unit operation costs for loading, hauling, road and dump construction and maintenance, and general mine, maintenance and administrative costs. Operating costs are can be developed to a high degree of confidence, based on experience, by using equipment productivity to determine the number of operating shifts required to move a given volume of material, followed by providing sufficient manpower, replacement parts, and consumables to cover the required operating shifts. Operating costs are highly site specific, and must consider such factors as the ore body geology, structure and situation, as well as factors relating to maintenance, personnel requirements.

Table 3.1
Pit Backfill Sequencing Options

	Waste In-place (million tons)	Waste In-place (million yards)	Broken (million yards)	Total In-place (million tons)	Total In-place (million yards)	Broken (million yards)
Option A - West Pit, Singer Pit, East Pit						
West Pit - To Waste Rock Stockpiles			50			
West Pit - Total	75	33	50	125	56	83
Singer Pit - To Backfill (West Pit)			10			
Singer Pit - Total	15	7	10	25	11	17
East Pit - To Waste Rock Stockpile			83			
East Pit - To Backfill (West Pit)			46			
East Pit - To Backfill (Singer Pit)			11			
East Pit - Total	210	93	140	300	133	200
Total - To Waste Stockpile			133			
Total - To Backfill (West Pit)			56			
Total - To Backfill (Singer Pit)			11			
Total - To Backfill (East Pit)			0			
Total	300	133	200	450	200	300
% of Total Waste to Stockpile			66.7%			
% of Total Waste to Pit Backfill			33.3%			
% of Pit Backfilled (West Pit)			100.0%			
% of Pit Backfilled (Singer Pit)			100.0%			
% of Pit Backfilled (East Pit)			0.0%			
Option B - Singer Pit, West Pit, East Pit						
Singer Pit - To Waste Rock Stockpile			10			
Singer Pit - Total	15	7	10	25	11	17
West Pit - To Waste Rock Stockpiles			39			
West Pit - To Backfill (Singer Pit)			11			
West Pit - Total	75	33	50	125	56	83
East Pit - To Waste Rock Stockpile			84			
East Pit - To Backfill (West Pit)			56			
East Pit - Total	210	93	140	300	133	200
Total - To Waste Stockpile			133			
Total - To Backfill (West Pit)			56			
Total - To Backfill (Singer Pit)			11			
Total - To Backfill (East Pit)			0			
Total	300	133	200	450	200	300
% of Total Waste to Stockpile			66.7%			
% of Total Waste to Pit Backfill			33.3%			
% of Pit Backfilled (West Pit)			100.0%			
% of Pit Backfilled (Singer Pit)			100.0%			
% of Pit Backfilled (East Pit)			0.0%			
Option C - East Pit, Singer Pit, West Pit						
East Pit - To Waste Rock Stockpile			140			
East Pit	210	93	140	300	133	200
Singer Pit - To Backfill (East Pit)			10			
Singer Pit - Total	15	7	10	25	11	17
West Pit - To Backfill (Singer Pit)			11			
West Pit - To Backfill (East Pit)			39			
West Pit - Total	75	33	50	125	56	83
Total - To Waste Stockpile			140			
Total - To Backfill (West Pit)			0			
Total - To Backfill (Singer Pit)			11			
Total - To Backfill (East Pit)			49			
Total	300	133	200	450	200	300
% of Total Waste to Stockpile			70.0%			
% of Total Waste to Pit Backfill			30.0%			
% of Pit Backfilled (West Pit)			0.0%			
% of Pit Backfilled (Singer Pit)			100.0%			
% of Pit Backfilled (East Pit)			36.7%			

equipment requirements, and general and administrative overhead. As a result operating costs in base and precious metals hard rock open pit mines can range from $0.40 to in excess of $1.25 per ton mined.

The figures shown in Table 3.2 are from a typical base metals operation mining approximately 42.6 million tons per year (compared to 37 million tons per year at Imperial Project). The average haul distance is approximately one mile from the mine to the dump, with some uphill hauling required. The operating cost is per total ton by function is shown.[1]

EIS/EIR Backfilling costs shown in Table 3.2 are for the Imperial Project based on costs of $0.40 to $0.50 per ton as contained in the Draft EIS/EIR. After eliminating the cost of drilling and blasting, the unit costs are estimated by weighting the costs comparably with those for the Typical Mining costs.

Table 3.2
Typical Mining vs. Imperial EIS/EIR and CSPP Estimated Backfilling Costs

Function	Typical Mining	EIS/EIR Backfill	CSPP Estimated
Drilling	$0.037	$0.000	$0.000
Blasting	$0.055	$0.000	$0.000
Loading	$0.074	$0.059-0.073	$0.074
Hauling	$0.172	$0.137-0.171	$0.070
Roads and Dumps	$0.046	$0.037-0.046	$0.046
General Mine	$0.026	$0.021-0.026	$0.026
General Maintenance	$0.062	0.049-0.062	$0.062
General Administration	$0.124	0.098-0.123	$0.062
Total	$0.596	$0.400-0.500	$0.340

The Center for Science in Public Participation (CSPP) Estimated Backfilling costs shown in Table 3.2 are for the Imperial Project using the Typical Mining costs adjusted by site specific particulars for backfilling at Imperial. According to information contained in the Draft EIS/EIR, the incremental cost of hauling waste ranges from $0.07 to $0.12 per mile, based on the information supplied by Glamis and other consultants. This is for a range of conditions, of which the low end is probably most indicative of a nearly straight haul with no uphill grade, as could be expected in backfilling. Because the haul would be mostly downhill, and the waste dump could be located directly adjacent the pit to be backfilled, a cost of $0.07 was used for the estimated cost of backfilling. The general administration costs were reduced by 50% to indicate the

[1] G.S. Zimmer, "*Mine Capital and Operating Costs: Base Metal Open Pit Mining*," Surface Mining, Society for Mining, Metallurgy, and Exploration, Inc. (1990).

decreased need for haulage supervision, grade control, surveying, etc., in backfilling versus mining.

Based upon comparison of the CSPP estimated costs and the costs in the EIS/EIR, $0.40 per ton appears to be a conservative cost estimate. The resulting Estimated Backfilling cost for the Imperial Project of $0.34 per ton backfilled is less than the cost estimated by Glamis of $0.40 to $0.50 per ton. The cost estimates of $0.40 to $0.50 per ton used in the EIS are conservative to highly conservative. A more detailed examination of the site specific costs and engineering design details to accommodate eventual backfilling could result in an additional reduction in estimated costs.

Cost-Benefit Analysis

019

Glamis company information from a Feasibility Study indicates a mineable ore resource for the Imperial Project at a gold price of US $400 per ounce, of 90-million tons grading 0.017 ounces per ton, with a strip ratio of 3:1 and containing approximately 1.5-million ounces of gold. It is estimated that recovery will average 73% (1.1 million recoverable ounces). Production costs for the identified resource are estimated to be US $214 per ounce, with total costs of US $292 per ounce, which include depreciation, amortization, royalties and taxes. There is a royalty in the form of a 1.5% net smelter return interest. Initial capital expenditure to bring the project into production is estimated at $47.6-million.[2]

The Draft EIS/EIR identifies up to 150-million tons of ore and 300-million tons of waste, for a total of 450-million tons mined, as the basis for the proposed action. The Feasibility Study identifies 90-million tons or ore with a strip ratio of 3:1, for a total of 360-million tons mined. The Draft EIS/EIR does not specifically mention the basis for the proposed plan, which would appear to be a significant omission. It is assumed that the reason for the discrepancy is upside thinking (or "possible" resources) by Glamis and/or the agencies. The agencies should have addressed this matter in the Draft EIS/EIR and required the proponent to divulge their reasoning for their determination. As this matter directly affects any real consideration of the economics of backfilling by the public, such as this Cost-Benefit study, this appears to be a substantial shortcoming of the Draft EIS/EIR.

In order to provide meaningful results, the Cost-Benefit analysis is based on costs from the mineable ore resource ("Proven" and "Probable") case as determined for the Feasibility Study, which is applicable to the company provided cost information. In the Cost-Benefit analysis it is assumed that 33% of the waste produced from mining would be backfilled under the proposed action, similar to the ratio established in the Draft EIS/EIR. No difference in this percentage would be expected to occur in either case, as the percent backfilled under the proposed action is a factor of space available (in previously mined pits), rather than the strip ratio. As the proposed action would result in 60-million additional tons of ore being mined with only 30-million tons additional waste, the overall Cost-Benefit on a unit cost basis is more conservatively stated by using the Feasibility Study than it would be for the proposed action. In other words, although the proposed action would result in additional total cost for backfill, it would be far outweighed by the total revenue gained from mining additional ore (the incremental ore mined would have a strip ratio of 1:0.5 ore to waste respectively).

[2] Glamis Gold Ltd. - Recent Developments, "*Ore Reserves Imperial Project.*," http://www.glamis.com (1997)

020 Base Case Cash-Flow Analysis

Based on information contained in the Draft EIS/EIR, and Glamis company information, a cash-flow spreadsheet was constructed. Table 4.0 (See Appendix A, Cash-Flow Spreadsheets) shows a conceptual base-case cash-flow for the Imperial project at a gold price of $400 per ounce. The base case was developed to represent the proposed action by Glamis Gold for the Imperial Project. It is based on information provided by the company or other reliable sources as indicated on the attached legend which corresponds to the detailed analysis sheets. Where company provided information has not been used, conservative assumptions have been applied. These assumptions include averaged distribution of production over project lifetime, and final reclamation-closure costs after production ceases of $3-million per year until closure (it is otherwise assumed that some reclamation costs have been deferred as operating costs).

Table 4.1 shows a conceptual base-case cash-flow for the project at a gold price of $280 per ounce, representing current gold market conditions. Table 4.2 shows a conceptual base-case cash-flow for the project based on a Rate of Return of 10%, with the corresponding required gold price ($324 per ounce). For comparison reasons both these cases use the same reserve and production estimates as the $400 per ounce case. The reserves and production might vary according to the gold price, with the most likely result for lower gold prices being a higher ore grade and less tonnage mined. Although the actual cash-flow analysis may be somewhat different as a result, these cases are still indicative of the effect of gold prices on cash-flow.

021 Complete Pit Backfill Cash-Flow Analysis

A complete pit backfill cash-flow spreadsheet was constructed for the same conditions as the base case, with the addition of costs of additional backfilling in years 11-14. Table 4.3 (See Appendix A, Cash-Flow Spreadsheets) shows a conceptual cash-flow for complete backfilling at the Imperial project at a gold price of $400 per ounce. The base case was developed to represent the complete backfilling alternative for the Imperial Project. The additional backfilling costs are based on $0.40 per ton waste backfilled.

Table 4.4 shows a conceptual cash-flow for complete backfilling at the project at a gold price of $280 per ounce, representing current gold market conditions. Table 4.5 shows a conceptual base-case cash-flow for the project based on a Rate of Return of 10%, with the corresponding required gold price ($357 per ounce). For comparison reasons both these cases use the same reserve and production estimates as the $400 per ounce and proposed action (limited backfill) case. The reserves and production might vary according to the gold price and cost of backfilling, with the most likely result of a lower gold price and backfilling costs being a higher ore grade and less tonnage mined. Although the actual cash-flow analysis may be somewhat different as a result, these cases are still indicative of the comparative cost-benefit of backfilling at lower gold prices on cash-flow.

Table 4.6 shows conceptual cash-flow for complete backfilling at a gold price of $400 per ounce and CSPP estimated backfilling costs of $0.34 per ton waste backfilled. Table 4.7 shows cash-flow for complete backfilling at a gold price of $280 per ounce and backfilling costs of $0.34 per ton. Table 4.8 shows a base-case cash-flow for the project based on a Rate of Return of 10% and backfill costs of $0.34 per ton, with the corresponding required gold price ($352 per ounce).

022 **Incremental Cost-Benefit Analysis**

Table 4 9 summarizes and compares the results of the cash-flow spreadsheets for the base-case and complete backfilling alternative at various gold prices

Table 4.9
Incremental Cost-Benefit of Base Case versus Alternative

	EIS-Proposed Action No Backfill	Pit Backfilling Alternative @ $0.40/ton	Pit Backfilling Alternative @ $0.34/ton
Net Cash Flow ($000's)			
@$400 per ounce gold	$121,892	$49,892	$60,692
@$280 per ounce gold	($13,544)	($85,544)	($74,753)
Internal Rate of Return			
@$400 per ounce gold	27.1%	24.5%	25.0%
@$280 per ounce gold	<0%	<0%	<0%
Net Present Value @ 10% DROR			
@$400 per ounce gold	$46,101	$26,173	$29,173
@$280 per ounce gold	($26,609)	($46,607)	($43,608)
Gold Price for 10% Rate of Return	$324	$357	$352

Conclusions

023

The economic feasibility of the Imperial Project is highly sensitive to the price of gold. At $400 per ounce gold the project would be considered lucrative compared to most other similar risk opportunities for economic gain, and the complete pit backfilling alternative would be considered nearly equally lucrative, despite a reduction in net overall cash-flow of $61 to $72-million (range represents $0.34 to $0.40 per ton backfilling costs respectively), as it would only reduce the Internal Rate of Return on the project by 2.1 to 2.6%, and reduce the Net Present Value at a 10% discounted rate of return by $17 to $20-million. In either case the project would meet most reasonable definitions of feasibility, except those which demand that any actions providing less economic benefit than the company proposed action be considered infeasible. However, this definition is impractical as it would require automatic acceptance of the company proposed action as the most reasonable from an environmental standpoint, notwithstanding regulatory review.

At current market conditions both the proposed action and the complete pit backfill alternative are infeasible. As neither meets any definition of feasibility, it is not possible to discern feasibility at this cost, as the project is impractical. Probably the most meaningful comparison is in terms of the gold price

required to earn a reasonable return on investment.

Assuming a 10% rate of return is considered reasonable, the proposed action would require a gold price of $324 per ounce, and the complete backfill alternative would require a gold price of $356 per ounce, yielding a difference of $32 per ounce. Since the proposed action was apparently intended to take place at $400 per ounce, it can be concluded that the complete backfill alternative would yield greater than a 10% return on investment, and therefore should be considered reasonably feasible as an alternative to the proposed action. If the company desires to evaluate the project on a different gold price basis, with different reserve estimates, mining plans, costs, environmental impacts, etc., they should do so by amending the EIS/EIR information, and request that the Draft EIS/EIR be revised.

References

Bureau of Land Management & County of Imperial. *Imperial Project, Draft Environmental Impact Statement Environmental Impact Report, Volume I and II.* November 1997.

Glamis Gold Ltd. - Recent Developments, "*Ore Reserves. Imperial Project.*," http://www.glamis.com 1997.

Smith, Michael. Letter communication re: *Imperial Project Alternative Mining and Processing Methods.* Sage Engineering. October 1997.

Zimmer, GS. *Mine Capital and Operating Costs: Base Metal Open Pit Mining*, Surface Mining, Society for Mining, Metallurgy, and Exploration, Inc. 1990.

APPENDIX A

CASH-FLOW SPREADSHEETS

CONCEPTUAL CASH FLOW ANALYSIS - Glamis Imperial Project
Base Case & Complete Pit Backfill Case

Line #	Line Description	Explanation
1	Mined Waste, M Tons	Glammis Gold Ltd - Recent Developments, Imperial Project 3 1 Combined Stripping Ratio
2	Mined Ore, M Tons	Glammis Gold Ltd - Recent Developments, Imperial Project 89,835,000 Ton Mineable Ore Resource
3	Mined Total, M Tons	Mined Ore + Mined Waste
4	Backfilled Waste, M Tons	Assumed at 50% of waste for base case, 100% of waste for complete backfill case, with additional backfilling years 11 - 14
5	Average Ore Grade, OPT Gold	Glammis Gold Ltd - Recent Developments, Imperial Project 1,509,004 oz's contained / 89,835,000 tons ore = 0 017 OPT
6	Contained Gold, K oz's	Obtained by multiplying Ore Grade (OPT) by Mined Ore (Tons) to determine oz's
7	Gold Recovery, %	Glammis Gold Ltd - Recent Developments, Imperial Project, 73% average recovery
8	Recoverable Gold, K oz's	Obtained by multiplying Contained Oz's by Gold Recovery to determine Recoverable Oz's
9	Recovered Gold, K oz's	Glammis Gold Ltd - Recent Developments, Imperial Project, average 103,850 oz's per year initial 10 years, remaining gold assumed recovered years 11 - 12
10	Gold Price, $/oz	Base Case - $400/oz
11	Gold Revenue, ($000's)	Gold Price x Recovered Gold
12	Net Revenue	Gold Revenue
13	Operating Costs, $/oz	Glammis Gold Ltd - Recent Developments, Imperial Project, Cash Costs US $214/oz
14	Operating Costs ($000's)	Obtained by multiplying Cash Costs $/oz by Recovered Oz's
15	Capital Costs ($000's) Development	Glammis Gold Ltd - Recent Developments, Imperial Project, Acquisition, exploration and permitting Capital Expenditure US $9 1 million
16	Capital Costs ($000's) Project	Glammis Gold Ltd - Recent Developments, Imperial Project, Initial Capital Expenditure US $47 6 million
17	Capital Costs ($000's) Total	Development Costs + Project Costs
18	Royalties @ 1 5% of Net	Glammis Gold Ltd - Recent Developments, Imperial Project, 100% interest, subject to 1 5% NSR interest
19	Other Costs ($000's)	Obtained by taking Total Costs and subtracting other known costs
20	Additional Backfill Costs, $/ton	From Report Section 3 2 - $0 40/ton
21	Additional Backfill Costs ($000's)	Obtained by multiplying Additional Backfill tons by $/ton
22	Total Costs, $/oz	Glammis Gold Ltd - Recent Developments, Imperial Project, Total Costs US $292/oz
23	Total Costs ($000's)	Obtained by multiplying Total Costs $/oz by Recovered Oz's
24	Net Cash Flow ($000's)	Equals Net Revenue Obtained by Net Revenue minus Total Costs
25	Cumulative Cash Flow ($000's)	Net Cash Flow Present Year + Cumulative Cash Flow Previous Year
26	Internal Rate of Return	Calculates the Rate of Return for Investment
27	Net Present Value ($000's)	Calculates the Net Present Value of future cash flow @ an interest rate (discounted rate of return)
28	@ 5% Discounted Rate of Return	Net Present Value at 5% Interest Rate
29	@ 10% Discounted Rate of Return	Net Present Value @ 10% Interest Rate
30	@ 15% Discounted Rate of Return	Net Present Value @ 15% Interest Rate

TABLE 4.0
CONCEPTUAL CASH FLOW ANALYSIS - Glamis Imperial Project
Base Case - Gold @ $400 per ounce

Line #	Project Year	PP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Total
	Production																
	Mining																
	Mined Waste, M Tons		28.2	28.2	28.2	28.2	28.2	28.2	28.2	28.2	28.2	28.2					270.0
1	Mined Ore, M Tons		6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	6.6	5.4					60.0
2	Mined Total, M Tons		27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6	27.6	23.6					360.0
3									28.2	28.2	28.2	6.6					90.0
4	Backfilled Waste, M Tons																0.017
5	Average Ore Grade, OPT Gold		0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017					1044
6	Contained Gold, K oz's		161	161	161	161	161	161	161	161	161	83					726
7	Gold Recovery		73%	73%	73%	73%	73%	73%	73%	73%	73%	73%					1126
8	Recoverable Gold, K oz's		118	118	118	118	118	118	118	118	118	60					1126
9	Recovered Gold, K oz's		104	104	104	104	104	104	104	104	104	104	48	48			
	Revenues																
10	Gold Price, $/oz		$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400			$400.00
11	Gold Revenue, ($000 s)		$41,540	$41,540	$41,540	$41,540	$41,540	$41,540	$41,540	$41,540	$41,540	$41,540	$19,026	$19,026			$451.452
12	Net Revenue		$41,540	$41,540	$41,540	$41,540	$41,540	$41,540	$41,540	$41,540	$41,540	$41,540	$19,026	$19,026			$451.452
	Costs																
13	Cash Costs, $/oz		$214	$214	$214	$214	$214	$214	$214	$214	$214	$214	$214	$214			$214
14	Cash Costs ($000's)		$22,224	$22,224	$22,224	$22,224	$22,224	$22,224	$22,224	$22,224	$22,224	$22,224	$8,646	$8,646	$3,000	$3,000	$247.527
	Capital Costs																$12,000
15	Development ($000 s)	$12,000															$47,000
16	Project ($000 s)	$47,000															$59,000
17	Capital Costs ($000 s)	$59,000	$823	$823	$823	$823	$823	$823	$823	$823	$823	$823	$276	$276			$6,772
18	Royalties @ 1.5% of Net		$1,118	$1,118	$1,118	$1,118	$1,118	$1,118	$1,118	$1,118	$1,118	$1,116	$1,118	$1,118	$1,118	$1,118	$15,661
19	Other Costs ($000's)																
20	Additional Backfill Costs, $/ton																$0
21	Additional Backfill Costs ($000 s)																$262
22	Total Costs, $/oz		$23,046	$23,046	$23,046	$23,046	$23,046	$23,046	$23,046	$23,046	$23,046	$23,046	$11,033	$11,033	$4,118	$4,118	$329,560
23	Total Costs ($000's)	$59,000	$23,046	$23,046	$23,046	$23,046	$23,046	$23,046	$23,046	$23,046	$23,046	$23,046	$11,033	$11,033	$4,118	$4,118	$321,962
24	Net Cash Flow ($000's)	($59,000)	$17,374	$17,374	$17,374	$17,374	$17,374	$17,374	$17,374	$17,374	$17,374	$17,374	$8,492	$8,493	($4,118)	($4,118)	
25	Cumulative Cash Flow ($000's)	($59,000)	($42,026)	($24,651)	($6,978)	$10,667	$28,372	$45,946	$62,420	$80,666	$98,160	$115,143	$123,136	$130,128	$126,011	$121,662	27.1%
26	Internal Rate of Return																
27	Net Present Value ($000 s)																$76,031
28	@5% Discounted Rate of Return																$94,171
29	@10% Discounted Rate of Return																$40,438
30	@15% Discounted Rate of Return																

TABLE 4.8
CONCEPTUAL CASH FLOW ANALYSIS - Glamis Imperial Project
Complete Pit Backfill Case - Gold @ $352 per ounce (10% Rate of Return) - $0.34/ton Backfill Cost

Line #	Project Year	PP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Total
	Production																
	Mining																
1	Mined Waste, M Tons		39.2	39.2	39.2	39.2	39.2	39.2	39.2	39.2	39.2	19.2					370.0
2	Mined Ore, M Tons		9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4					90.0
3	Mined Total, M Tons		37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6	21.6					360.0
4	Backfilled Waste, M Tons								39.2	39.2	39.2	9.4	48.0	48.0	48.0	48.0	370.0
5	Average Ore Grade, OPT Gold		0.017	0.017	0.017	0.012	0.017	0.017	0.017	0.017	0.017	0.017					0.017
6	Contained Gold, K oz's		161	161	161	161	161	161	161	161	161	82					1546
7	Gold Recovery		73%	73%	73%	73%	73%	73%	73%	73%	73%	73%					73%
8	Recoverable Gold, K oz's		118	118	118	118	118	118	118	118	118	60					1130
9	Recovered Gold, K oz's		104	104	104	104	104	104	104	104	104	104	48	48			1130
	Revenues																
10	Gold Price, $/oz		$352	$352	$352	$352	$352	$352	$352	$352	$352	$352	$352	$352			$352.00
11	Gold Revenue, ($000's)		$36,555	$36,555	$36,555	$36,555	$36,555	$36,555	$36,555	$36,555	$36,555	$36,555	$16,963	$16,963			$397,210
12	Net Revenue		$36,555	$36,555	$36,555	$36,555	$36,555	$36,555	$36,555	$36,555	$36,555	$36,555	$16,963	$16,963			$397,210
	Costs																
13	Cash Costs, $/oz		$214	$214	$214	$214	$214	$214	$214	$214	$214	$214	$214	$214			$214
14	Cash Costs ($000's)		$22,225	$22,224	$22,224	$22,225	$22,224	$22,225	$22,224	$22,224	$22,224	$22,224	$9,946	$9,946	$3,000	$3,000	$240,521
	Capital Costs																
15	Development ($000's)	$12,000															$12,000
16	Project ($000's)	$47,600															$47,600
17	Capital Costs ($000's)	$59,600															$59,600
18	Royalties @ 1.9% of Net		$548	$548	$548	$548	$548	$548	$548	$548	$548	$548	$330	$239			$5,956
19	Other Costs ($000's)		$1,177	$1,177	$1,111	$1,177	$1,177	$1,177	$1,177	$1,177	$1,177	$1,111	$1,177	$1,177	$1,111	$1,177	$16,474
20	Additional Backfill Costs, $/ton												$0.34	$0.34	$0.34	$0.34	$0.34
21	Additional Backfill Costs ($000's)												$16,300	$16,306	$16,300	$16,300	$81,200
22	Total Costs, $/oz																$346
23	Total Costs ($000's)	$59,600	$23,949	$23,948	$23,949	$23,948	$23,949	$23,949	$23,949	$23,949	$23,949	$23,385	$26,755	$26,755	$19,412	$19,477	$396,760
24	Net Cash Flow ($000's)	($59,600)	$12,606	$12,606	$12,606	$12,606	$12,606	$12,606	$12,606	$12,606	$12,606	$13,170	$9,792	$9,792	($2,449)	($2,514)	$6,519
25	Cumulative Cash Flow ($000's)	($59,600)	($46,994)	($34,387)	($21,781)	($9,175)	$3,431	$16,036	$28,642	$41,248	$53,854	$67,024	$76,815	$86,607	$84,158	$81,644	
26	Internal Rate of Return																10.1%
27	Net Present Value ($000's)																
28	@5% Discounted Rate of Return																$9,339
29	@10% Discounted Rate of Return																$61
30	@15% Discounted Rate of Return																($3,624)

TABLE 4 1
CONCEPTUAL CASH FLOW ANALYSIS - Glamis Imperial Project
Base Case - Gold @ $280 per ounce

Line #	Project Year	PP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Total
	Production																
	Mining																370 0
1	Mined Waste, M Tons		39 2	39 2	39 2	39 2	39 2	39 2	39 2	39 2	39 2	19 2					90 0
2	Mined Ore, M Tons		9 4	9 4	9 4	9 4	9 4	9 4	9 4	9 4	9 4	9 4					360 0
3	Mined Total, M Tons		37 8	37 8	37 8	37 8	37 8	37 8	37 8	37 8	37 8	21 6					60 0
4	Backfilled Waste, M Tons								28 2	39 2	39 2	9 4					0 017
5	Average Ore Grade, OPT Gold		0 017	0 017	0 017	0 017	0 017	0 017	0 017	0 017	0 017	0 017					1546
6	Contained Gold, K oz's		161	161	161	161	161	161	161	161	161	93					72%
7	Gold Recovery		72%	73%	73%	72%	73%	73%	73%	73%	73%	73%					1128
8	Recoverable Gold, K oz's		116	118	118	118	118	118	118	118	118	68					1128
9	Recovered Gold, K oz's		104	104	104	104	104	104	104	104	104	104	43	45			
	Revenues		$280	$280	$280	$280	$280	$280	$280	$280	$280	$280	$280	$280			$280 00
10	Gold Price, $/oz		$29,078	$29,078	$29,078	$29,078	$29,078	$29,078	$29,078	$29,078	$29,078	$29,078	$12,018	$12,818			$310,018
11	Gold Revenue, ($000's)		$29,078	$29,078	$29,078	$29,078	$29,078	$29,078	$29,078	$29,078	$29,078	$29,078	$12,018	$12,818			$310,018
12	Net Revenue																
	Costs		$214	$214	$214	$214	$214	$214	$214	$214	$214	$214	$214	$214			$214
13	Cash Costs, $/oz		$22,324	$22,324	$22,324	$22,324	$22,324	$22,324	$22,324	$22,324	$22,324	$22,324	$9,044	$9,644	$3,000	$3,600	$242,527
14	Cash Costs ($000's)																
	Capital Costs																$12,000
15	Development ($000's)	$12,000															$47,600
16	Project ($000's)	$47,600															$59,600
17	Capital Costs ($000's)	$59,600															$47 60
18	Royalties @ 1 5% of Net		$436	$436	$436	$436	$436	$436	$436	$436	$436	$436	$180	$189			$17,982
19	Other Costs ($000's)		$1,304	$1,304	$1,304	$1,304	$1,304	$1,304	$1,304	$1,304	$1,304	$1,304	$1,304	$1,304	$1,304	$1,304	
20	Additional Backfill Costs, $/ton																50
21	Additional Backfill Costs ($000's)																$252
22	Total Costs, $/oz	$59,600	$23,524	$23,824	$23,824	$23,974	$23,824	$23,824	$23,824	$23,824	$23,824	$23,524	$11,087	$11,087	$4,304	$4,304	$328 340
23	Total Costs ($000's)	($59,600)	$5,154	$5,154	$5,154	$5,154	$5,154	$5,154	$5,154	$5,154	$5,154	$5,154	$1,931	$1,731	($4,304)	($4,304)	($11,540)
24	Net Cash Flow ($000's)	($59,600)	($54,446)	($49,292)	($44,138)	($38,983)	($33,829)	($28,676)	($23,521)	($18,367)	($13,213)	($8,059)	($6,573)	($5,010)	($9,008)	($13,540)	
25	Cumulative Cash Flow ($000's)																8 9%
26	Internal Rate of Return																
27	Net Present Value ($000's)																($21,408)
28	@ 5% Discounted Rate of Return																($24 80%)
29	@ 10% Discounted Rate of Return																($28 82%)
30	@ 15% Discounted Rate of Return																

TABLE 4.2
CONCEPTUAL CASH FLOW ANALYSIS - Glamis Imperial Project
Base Case - Gold @ $324 per ounce (10% Rate of Return)

Line #	Project Year	PP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Total
	Production																
	Mining																
1	Mined Waste, M Tons		58.2	28.2	28.2	28.2	28.2	28.2	28.2	28.2	28.2	18.2					270.0
5	Mined Ore, M Tons		6.4	6.4	6.4	6.4	5.4	6.4	6.4	6.4	6.4	5.4					60.0
2	Mined Total, M Tons		37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6					360.0
4	Backfilled Waste, M Tons								58.8	28.2	28.2	5.4					90.0
5	Average Ore Grade, OPT Gold		0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017					0.017
4	Contained Gold, K oz's		101	101	101	101	101	101	101	101	101	83					1046
7	Gold Recovery		72%	72%	72%	72%	72%	72%	72%	72%	72%	72%					72%
6	Recoverable Gold, K oz's		116	116	116	116	116	116	116	116	116	60					1129
8	Recovered Gold, K oz's		104	104	104	104	104	104	104	104	104	104	46	46			1128
	Revenues																
10	Gold Price, $/oz		$324	$324	$324	$224	$324	$324	$324	$324	$324	$324	$324	$324			$324.00
11	Gold Revenue, ($000's)		$32,847	$32,847	$32,847	$32,847	$33,847	$32,847	$33,847	$33,847	$32,847	$33,847	$14,601	$14,601			$365,676
15	Net Revenue		$32,847	$32,847	$32,847	$33,847	$33,847	$32,847	$32,847	$33,847	$33,847	$33,847	$14,601	$14,601			$365,676
	Costs																
13	Cash Costs, $/oz		$214	$214	$214	$214	$214	$214	$214	$214	$214	$214	$214	$214			$214
14	Cash Costs ($000's)		$22,224	$22,224	$22,224	$22,224	$22,224	$22,224	$22,224	$22,224	$22,224	$22,224	$9,844	$9,844	$3,000	$2,000	$247,537
	Capital Costs																
15	Development ($000's)	$12,000															$12,000
16	Project ($000's)	$47,600															$47,600
17	Capital Costs ($000's)	$59,600															$59,600
18	Royalties @ 1.5% of Net		$505	$505	$505	$505	$505	$505	$505	$505	$505	$505	$518	$218			$5,485
19	Other Costs ($000's)		$1,211	$1,211	$1,211	$1,211	$1,211	$1,211	$1,211	$1,211	$1,211	$1,211	$1,211	$1,211	$1,211	$1,211	$18,948
26	Additional Backfill Costs, $/ton																
21	Additional Backfill Costs ($000's)																$0
22	Total Costs, $/oz																$282
23	Total Costs ($000's)	$59,600	$23,939	$23,939	$23,939	$23,939	$23,939	$23,939	$23,939	$23,939	$23,939	$23,939	$11,573	$11,273	$4,211	$4,211	$329,540
24	Net Cash Flow ($000's)	($59,600)	$8,708	$8,708	$8,708	$8,708	$8,708	$8,708	$8,708	$8,708	$8,708	$8,708	$3,028	$3,328	($4,211)	($4,211)	$36,136
25	Cumulative Cash Flow ($000's)	($59,600)	($49,892)	($40,184)	($30,476)	($20,767)	($11,059)	($1,351)	$8,358	$18,066	$27,774	$37,482	$41,010	$44,337	$40,127	$36,116	
28	Internal Rate of Return																10.9%
27	Net Present Value ($000's)																
38	@5% Discounted Rate of Return																$14,318
39	@10% Discounted Rate of Return																$77
30	@15% Discounted Rate of Return																($9,578)

1093.FIN/ALEISEIR VOL.3 VER-02.wpd

TABLE 4.3
CONCEPTUAL CASH FLOW ANALYSIS - Glamis Imperial Project
Complete Pit Backfill Case - Gold @ $400 per ounce

Line #	Project Year	PP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Total
	Production																
	Mining																
1	Mined Waste, M Tons		29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	10.2					270.0
2	Mined Ore, M Tons		8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	5.8					90.0
3	Mined Total, M Tons		37.8	37.8	37.8	37.8	37.8	37.8	37.8	37.8	37.8	21.0					360.0
4	Backfilled Waste, M Tons								29.2	29.2	29.2	5.4	48.0	48.0	48.0	48.0	274.0
5	Average Ore Grade, OPT Gold		0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017					0.017
6	Contained Gold, K oz's		151	151	151	151	151	151	151	151	151	83					1546
7	Gold Recovery		73%	73%	73%	73%	73%	73%	73%	73%	73%	73%					73%
8	Recoverable Gold, K oz's		110	110	110	110	110	110	110	110	110	60					1126
9	Recovered Gold, K oz's		104	104	104	104	104	104	104	104	104	104	48	48			1126
	Revenues																
10	Gold Price, $/oz		$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400			$400.00
11	Gold Revenue, ($000 s)		$41,540	$41,540	$41,540	$41,540	$41,540	$41,540	$41,540	$41,540	$41,540	$41,540	$18,028	$18,028			$451,452
12	Net Revenue		$41,540	$41,540	$41,540	$41,540	$41,540	$41,540	$41,540	$41,540	$41,540	$41,540	$18,028	$18,028			$451,452
	Costs																$214
12	Cost, Costs, $/oz		$214	$214	$214	$214	$214	$214	$214	$214	$214	$214	$214	$214			$247,527
14	Cash Costs ($000 s)		$22,224	$22,224	$22,224	$22,224	$22,224	$22,224	$22,224	$22,224	$22,224	$22,224	$8,644	$8,644	$3,000	$3,000	1136
	Capital Costs																$12,000
	Development ($000 s)	$12,000															$47,600
15	Project ($000 s)	$47,600															$58,600
16	Capital Costs ($000 s)	$59,600	$623	$623	$623	$627	$623	$623	$623	$623	$623	$623	$370	$370			$8,772
17	Royalties @ 1.5% of Net		$1,118	$1,118	$1,118	$1,118	$1,118	$1,118	$1,118	$1,118	$1,118	$1,118	$1,118	$1,118	$1,118	$1,118	$15,661
18	Other Costs ($000 s)												$0.40	$0.40	$0.40	$0.40	$4.40
19	Additional Backfill Costs, $/ton												$18,000	$18,000	$18,000	$18,000	$72,000
20	Additional Backfill Costs ($000 s)																$155
21	Total Costs, $/oz																$401.540
22	Total Costs ($000 s)	$59,600	$23,966	$23,966	$23,966	$23,966	$23,966	$23,966	$23,966	$23,966	$23,966	$23,966	$28,053	$28,523	$22,118	$22,118	$69,982
23	Net Cash Flow ($000 s)	($59,600)	$17,574	$17,574	$17,574	$17,574	$17,574	$17,574	$17,574	$17,574	$17,574	$17,574	($11,025)	($11,007)	($22,118)	($22,118)	
24	Cumulative Cash Flow ($000 s)	($59,600)	($42,026)	($24,451)	($6,877)	$10,697	$28,272	$45,846	$63,420	$80,995	$98,568	$116,142	$105,126	$94,120	$72,011	$49,892	
25	Internal Rate of Return																24.5%
26	Net Present Value ($000 s)																$30,703
27	@5% Discounted Rate of Return																$26,177
28	@10% Discounted Rate of Return																$15,160
29	@15% Discounted Rate of Return																
30																	

TABLE 4.4
CONCEPTUAL CASH FLOW ANALYSIS - Glamis Imperial Project
Complete Pit Backfill Case - Gold @ $280 per ounce

Line #	Project Year	PP	1	2	3	4	5	6	7	8	9	10	11	15	12	14	Total
	Production																
	Mining																
1	Mined Waste, M Tons		39.2	39.2	39.2	39.2	39.2	39.2	39.2	39.2	39.2	78.5					
2	Mined Ore, M Tons		9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	5.4					270.0
3	Mined Total, M Tons		37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6	51.6					90.0
4	Backfilled Waste, M Tons								39.2	39.2	39.2	5.4	45.0	45.0	45.0	45.0	360.0
5	Average Ore Grade, OPT Gold		0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017					270.0
6	Contained Gold, K oz's		161	161	161	161	161	161	161	161	161	83					0.017
7	Gold Recovery		72%	72%	72%	72%	72%	72%	72%	72%	72%	73%					1546
8	Recoverable Gold, K oz's		116	116	116	116	116	116	116	116	116	60					73%
9	Recovered Gold, K oz's		104	104	104	104	104	104	104	104	104	60					1129
	Revenues												45	45			1129
70	Gold Price, $/oz		$280	$280	$280	$280	$280	$280	$280	$280	$280	$280	$280	$280			
71	Gold Revenue, ($000's)		$29,078	$29,078	$29,078	$29,078	$29,078	$29,078	$29,078	$29,078	$29,078	$16,878	$12,618	$12,618			$290 00
12	Net Revenue		$29,078	$29,078	$29,078	$29,078	$29,078	$29,078	$29,078	$29,078	$29,078	$16,878	$12,618	$12,618			$316,018
	Costs																
73	Cash Costs, $/oz		$214	$214	$214	$214	$214	$214	$214	$214	$214	$214	$214	$214			$214
74	Cash Costs ($000's)		$22,224	$22,224	$22,224	$22,224	$22,224	$22,224	$22,224	$22,224	$22,224	$11,544	$9,644	$9,644	$3,000	$3,000	$247,527
	Capital Costs																
15	Development ($000's)	$12,000															
78	Project ($000's)	$47,000															$12,000
17	Capital Costs ($000's)	$59,000															$47,000
18	Royalties @ 7.5% of Net		$436	$436	$436	$436	$436	$436	$436	$436	$436	$436	$189	$189			$59,000
19	Other Costs ($000's)		$1,294	$1,294	$1,294	$1,294	$1,294	$1,294	$1,294	$1,294	$1,294	$1,294	$1,294	$1,294	$1,294	$1,294	$4,740
20	Additional Backfill Costs, $/ton												$1,294	$1,294	$1,294	$1,294	$17,893
21	Additional Backfill Costs ($000's)												$0 40	$0 40	$0 40	$0 40	$0 40
25	Total Costs, $/oz												$18,000	$18,000	$18,000	$18,000	$72,000
23	Total Costs ($000's)	$59,000	$22,824	$22,824	$22,824	$23,824	$23,824	$23,824	$23,824	$22,824	$22,824	$22,824	$29,087	$29,087	$22,254	$22,294	$316
24	Net Cash Flow ($000's)	($59,000)	$5,154	$5,154	$5,154	$5,754	$5,154	$5,154	$5,154	$6,154	$5,154	$5,154	($10,470)	($10,470)	($22,254)	($22,294)	$401,560
25	Cumulative Cash Flow ($000's)	($59,000)	($54,446)	($49,292)	($44,139)	($38,982)	($32,829)	($26,675)	($22,521)	($16,367)	($12,213)	($8,059)	($24,527)	($41,018)	($63,280)	($85,544)	($85,544)
26	Internal Rate of Return																<-10%
27	Net Present Value ($000's)																
28	@5% Discounted Rate of Return																($58,727)
29	@10% Discounted Rate of Return																($46,807)
30	@15% Discounted Rate of Return																($40 67)

I093 FINALEISEIR VOL-3 VER-02.wpd

TABLE 4.5
CONCEPTUAL CASH FLOW ANALYSIS - Glamis Imperial Project
Complete Pit Backfill Case - Gold @ $357 per ounce (10% Rate of Return) - $0.40/ton Backfill Cost

Line #	Project Year	PP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Total
	Production																
	Mining																
1	Mined Waste, M Tons		30 2	30 2	30 2	30 2	30 2	30 2	30 2	30 2	30 2	30 2					302 0
2	Mined Ore, M Tons		6 4	6 4	6 4	6 4	6 4	6 4	6 4	6 4	6 4	6 4					64 0
3	Mined Total, M Tons		37 6	37 6	37 6	37 6	37 6	37 6	37 6	37 6	37 6	37 6					376 0
4	Backfilled Waste, M Tons								30 2	30 2	30 2	6 4	45 0	45 0	45 0	45 0	316 0
5	Average Ore Grade, OPT Gold		0 017	0 017	0 017	0 017	0 017	0 017	0 017	0 017	0 017	0 017					0 017
6	Contained Gold, K oz's		101	101	101	101	101	101	101	101	101	83					1048
7	Gold Recovery		73%	73%	73%	73%	73%	73%	73%	73%	73%	73%					73%
8	Recoverable Gold, K oz's		110	110	110	110	110	110	110	110	110	90					1129
9	Recovered Gold, K oz's		104	104	104	104	104	104	104	104	104	104	45	45			1129
	Revenues																
10	Gold Price, $/oz		$357	$357	$357	$357	$357	$357	$357	$357	$357	$357	$331	$331			$357 06
11	Gold Revenue, ($000's)		$37,074	$37,074	$37,074	$37,074	$37,074	$37,074	$37,074	$37,074	$37,074	$31,074	$14,948	$14,948			$402,631
12	Net Revenue		$37,074	$37,074	$37,074	$37,074	$37,074	$37,074	$37,074	$37,074	$37,074	$31,074	$14,948	$14,948			$402,631
	Costs																
13	Cash Costs, $/oz		$314	$314	$314	$314	$314	$314	$314	$314	$314	$314	$314	$314			$314
14	Cash Costs ($000's)		$32,334	$32,334	$32,334	$32,334	$32,334	$32,334	$32,334	$32,334	$32,334	$32,334	$14,144	$14,144	$7,000	$1,000	$341,675
	Capital Costs																
15	Development ($000's)	$12,000															$12,000
16	Project ($000's)	$41,800															$41,800
17	Capital Costs ($000's)	$53,800															$53,800
18	Royalties @ 1 5% of Net		$556	$556	$556	$556	$556	$556	$556	$556	$556	$556	$361	$361			$6,044
19	Other Costs ($000's)		$1,171	$1,171	$1,171	$1,171	$1,171	$1,171	$1,171	$1,171	$1,171	$1,171	$1,171	$1,171	$1,171	$1,171	$16,398
20	Additional Backfill Costs, $/ton												$0 40	$0 40	$0 40	$0 40	$0 40
21	Additional Backfill Costs ($000's)												$18,000	$18,000	$18,000	$18,000	$72,000
22	Total Costs, $/oz																$356
23	Total Costs ($000's)	$53,800	$33,951	$33,951	$33,951	$33,951	$33,951	$33,951	$33,951	$33,951	$33,951	$33,951	$26,056	$26,056	$20,358	$20,171	$527,917
24	Net Cash Flow ($000's)	($53,800)	$3,124	$3,124	$3,124	$3,124	$3,124	$3,124	$3,124	$3,124	$3,124	$3,124	($12,968)	($12,968)	($13,358)	($13,171)	($74,286)
25	Cumulative Cash Flow ($000's)	($53,800)	($49,676)	($33,352)	($30,228)	($27,104)	$6,518	$10,142	$13,266	$16,390	$19,514	$71,638	$58,670	$45,703	$32,433	$1,261	
26	Internal Rate of Return																10 1%
27	Net Present Value ($000's)																
28	@5% Discounted Rate of Return																$2 761
29	@10% Discounted Rate of Return																$91
30	@15% Discounted Rate of Return																($49 841)

1093 FINALEISER VOL-3 VER-02.wpd

TABLE 4.6
CONCEPTUAL CASH FLOW ANALYSIS - Glamis Imperial Project
Complete Pit Backfill Case - Gold @ $400 per ounce (10% Rate of Return) - $0.34/ton Backfill Cost

Line #	Project Year	PP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Total
	Production																
	Mining																
1	Mined Waste, M Tons		28.2	28.2	28.2	28.2	28.2	28.2	28.2	28.2	28.2	18.2					270.0
2	Mined Ore, M Tons		5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4					50.0
3	Mined Total, M Tons		57.6	57.6	57.6	57.6	57.6	57.6	57.6	57.6	57.6	21.5					320.0
4	Backfilled Waste, M Tons								29.2	29.2	29.2	5.4	45.0	45.0	45.0	45.0	270.0
5	Average Ore Grade, OPT Gold		0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017	0.017					0.017
6	Contained Gold, K oz's		191	191	191	191	191	191	191	191	191	83					1148
7	Gold Recovery		72%	72%	72%	75%	72%	72%	72%	75%	72%	72%					73%
8	Recoverable Gold, K oz's		119	119	119	115	115	115	115	110	118	60					1129
9	Recovered Gold, K oz's		104	104	104	104	104	104	104	104	104	104	45	45			1129
	Revenues																
10	Gold Price, $/oz		$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400	$400			$400.00
11	Gold Revenue, ($000's)		$41,840	$41,840	$41,840	$41,340	$41,840	$41,840	$41,340	$41,840	$41,840	$41,340	$18,028	$18,028			$451,462
12	Net Revenue		$41,340	$41,840	$41,840	$41,340	$41,840	$41,840	$41,340	$41,840	$41,840	$41,340	$18,028	$18,028			$451,462
	Costs																
13	Cash Costs, $/oz		$214	$214	$214	$214	$214	$214	$214	$214	$214	$214	$214	$214			$214
14	Cash Costs ($000's)		$22,224	$22,224	$22,224	$22,224	$22,224	$22,224	$22,224	$22,224	$22,224	$22,224	$9,644	$9,644	$3,000	$3,000	$247,527
	Capital Costs																
15	Development ($000's)	$12,000															$12,000
16	Project ($000's)	$47,600															$47,600
17	Capital Costs ($000's)	$59,600															$59,600
18	Royalties @ 1.5% of Net		$620	$628	$628	$622	$628	$628	$622	$628	$622	$623	$270	$270			$6,772
19	Other Costs ($000's)		$1,115	$1,115	$1,115	$1,115	$1,115	$1,115	$1,115	$1,115	$1,115	$1,118	$1,118	$1,115	$1,115	$1,115	$12,581
20	Additional Backfill Costs, $/ton												$0.34	$0.34	$0.34	$0.34	$0.34
21	Additional Backfill Costs ($000's)												$15,300	$15,300	$15,300	$15,300	$61,200
22	Total Costs, $/oz																$346
23	Total Costs ($000's)	$59,600	$23,968	$23,968	$23,968	$23,968	$23,968	$23,968	$23,968	$23,968	$23,968	$23,966	$26,333	$26,333	$16,415	$16,415	$390,760
24	Net Cash Flow ($000's)	($59,600)	$17,374	$17,874	$17,874	$17,374	$17,874	$17,874	$17,374	$17,874	$17,874	$17,374	($8,307)	($8,307)	($15,415)	($16,415)	$60,702
25	Cumulative Cash Flow ($000's)	($59,600)	($42,226)	($24,451)	($6,577)	$10,797	$28,672	$46,546	$63,420	$80,295	$98,169	$115,543	$107,236	$98,979	$80,111	$63,696	
26	Internal Rate of Return																25.9%
27	Net Present Value ($000's)																
28	@5% Discounted Rate of Return																$84,301
29	@10% Discounted Rate of Return																$39,173
30	@15% Discounted Rate of Return																$16,937

1093.FIN-ALEISEIR VOL-3 YER-02.wpd

TABLE 4.7
CONCEPTUAL CASH FLOW ANALYSIS - Glamis Imperial Project
Complete Pit Backfill Case - Gold @ $280 per ounce - $0.34/ton Backfill Cost

Line #	Project Year	PP	1	2	3	4	5	6	7	8	9	10	11	12	13	14	Total
	Production																
	Mining																370 0
1	Mined Waste, M Tons		28 2	28 2	28 2	28 2	28 2	28 2	28 2	28 2	28 2	19 3					90 0
2	Mined Ore, M Tons		9 4	9 4	9 4	9 4	9 4	9 4	9 4	9 4	9 4	5 4					360 0
3	Mined Total, M Tons		37 6	37 6	37 6	37 6	37 6	37 6	37 6	37 6	37 6	21 6					370 4
4	Backfilled Waste, M Tons							28 2	28 2	28 2	28 2	9 4	45 0	45 0	45 0	45 0	0 017
5	Average Ore Grade, OPT Gold		0 017	0 017	0 017	0 017	0 017	0 017	0 017	0 017	0 017	0 017					1546
6	Contained Gold, K oz's		161	161	161	161	161	161	161	161	161	83					73%
7	Gold Recovery		73%	73%	73%	73%	73%	73%	73%	73%	73%	73%					1128
8	Recoverable Gold, K oz's		118	118	118	118	118	118	118	118	118	60					1128
9	Recovered Gold, K oz's		104	104	104	104	104	104	104	104	104	104	45	45			
	Revenues		$280	$280	$280	$280	$280	$280	$280	$280	$280	$280	$280	$280			$280 00
10	Gold Price, $/oz		$29,078	$29,078	$29,078	$29,078	$29,078	$29,078	$29,078	$29,078	$29,078	$29,078	$12,618	$12,618			$316,018
11	Gold Revenue, ($000's)		$29,078	$29,078	$29,078	$29,078	$29,078	$29,078	$29,078	$29,078	$29,078	$29,078	$12,618	$12,618			$316,018
12	Net Revenue																$214
	Costs		$214	$214	$214	$214	$214	$214	$214	$214	$214	$214	$214	$214			$247,827
13	Cash Costs, $/oz		$22,224	$22,224	$22,224	$22,224	$22,224	$22,224	$22,224	$22,224	$22,224	$22,224	$9,644	$9,644	$3,000	$3,000	
14	Cash Costs ($000's)																$12,000
	Capital Costs	$12,000															$47,600
15	Development ($000's)	$47,600															$59,600
16	Project ($000's)	$59,600															$4,740
17	Capital Costs ($000's)		$438	$438	$438	$438	$438	$438	$438	$438	$438	$438	$188	$188			$17,662
18	Royalties @ 1.5% of Net		$1,304	$1,304	$1,304	$1,304	$1,304	$1,304	$1,304	$1,304	$1,304	$1,304	$1,304	$1,304	$1,304	$1,304	$0 34
19	Other Costs ($000's)												$0 24	$0 34	$0 34	$0 34	$61,200
20	Additional Backfill Costs, $/ton												$15,300	$15,300	$15,300	$15,300	$346
21	Additional Backfill Costs ($000's)																$380,750
22	Total Costs, $/oz	$59,600	$23,824	$23,824	$23,824	$23,824	$23,824	$23,824	$23,824	$23,824	$23,824	$23,824	$26,367	$26,367	$18,584	$18,584	($74,743)
23	Total Costs ($000's)	($59,600)	$5,154	$5,154	$5,154	$5,154	$5,154	$5,154	$5,154	$5,154	$5,154	$5,154	($13,779)	($13,779)	($10,564)	($10,564)	
24	Net Cash Flow ($000's)	($59,600)	($54,446)	($49,292)	($44,138)	($39,983)	($32,829)	($28,675)	($23,521)	($18,367)	($12,212)	($8,058)	($21,837)	($35,616)	($55,180)	($74,743)	
25	Cumulative Cash Flow ($000's)																ERR
26	Internal Rate of Return																($53,139)
27	Net Present Value ($000's)																($43,906)
28	@5% Discounted Rate of Return																($35,317)
29	@10% Discounted Rate of Return																
30	@15% Discounted Rate of Return																

1093 FEN/ALEISER VOL 3 VER 02.wpd

APPENDIX B

COMPANY INFORMATION

Glamis Gold
Logo

Recent Developments

Ore Reserves

The following table describes the effects of mining and ore development activities at the Company's projects and mines for the nine month period ended September 30, 1996:

Mine or Project	December 31, 1995 Ore Reserves (1)	December 31, 1995 Contained Gold	Period January 1, 1996 to September 30, 1996 Ore Mined	Period January 1, 1996 to September 30, 1996 Additions to Reserves	September 30, 1996 Ore Reserves (1)	September 30, 1996 Contained Gold
	tons	ozs	tons	tons	tons	ozs
Rand	19,128,500	1,246,200	4,447,200	n/a	12,442,700	1,247,495
Picacho	2,948,450	114,579	1,237,250	n/a	1,726,220	71,175
Mesquite	49,115,200	1,569,364	-	n/a	49,915,520	1,527,254

Imperial Project

Property

The Company holds a 100% interest, subject to a 1.5% net smelter return interest, in approximately 10,800 acres in eastern Imperial County, California. The Imperial County claims, now known as the Imperial Project, lie 8 miles to the north and west of the Picacho Mine and are 12 miles to the south and east of Santa Fe Pacific Gold's Mesquite Mine.

Geology and Reserves

Approximately 178,690 feet of reverse circulation drilling and 4,240 feet of core drilling have been completed by the Company over several areas on the Imperial Project. Additional exploration programs completed to date consist of geologic mapping and geochemical and geophysical surveys. The Company had expended approximately U.S.$9.1 million on acquisition, exploration and permitting of the Imperial Project as at September 30, 1996.

The gold reserves of the Imperial Project are hosted in fractured Mesozoic schists and gneisses. This type of mineralization is similar to that found at the nearby Picacho Mine and Santa Fe Pacific Gold's Mesquite Mine.

Drilling, geological interpretation and mine evaluation studies by the Company have resulted in the delineation of a proven and probable mineable ore resource for the Imperial Project as at December 31, 1995 within preliminary pit outlines, using a cut-off grade of 0.007 ounces of gold per ton and a gold price of U.S.$400 per ounce, of 73,796,000 tons of proven reserves grading 0.017 ounces per ton and 16,039,000 tons of probable reserves grading 0.018 ounces of gold per ton, having a combined stripping ratio of 3:1 and containing approximately 1,500,000 ounces of gold.

Feasibility

On May 2, 1996 the Board of Directors of the Company determined to place the Imperial Project into production in accordance with a feasibility study and operating plan (the "Feasibility Study"). Subject to timely receipt of the required permits, construction and mine development is estimated to start during the third quarter of 1997, followed by gold production commencing approximately six months after the start of construction.

The Company's draft Environmental Impact Study in respect of the Imperial Project was published in the Federal Register on November 1, 1996. This will begin the public review process for production permitting for the Project.

Ore tonnages mined will average 9.4 million tons per year. Project life is expected to be approximately 12 years, producing an average of 103,850 ounces of gold per year in the initial 10 years.

Production cash costs for the Imperial Project are estimated in the Feasibility Study to be U.S.$214 per ounce, with total costs of U.S.$292 per ounce, which include depreciation, amortization, royalties and taxes. In the Feasibility Study, U.S.$400 per ounce was used as a selling price for gold. Gold recovery will be by conventional heap leach run-of-mine ore utilizing processing facilities similar to those used at the Company's other major gold-producing properties. In the Feasibility Study it is estimated that recovery will average 73%.

Initial capital expenditure to bring the Imperial Project into production is estimated at U.S.$47.6 million, which will be funded partially from

the proceeds of this offering and partially from working capital. See "Use of Proceeds".

Rand Mine

The Company's optimization plan for the Rand Mine, which was instituted in April of 1996, is having a positive impact on operations at the Rand Mine. During the nine-month period ended September 30, 1996, 60,991 ounces of gold were produced from the Rand Mine as compared to 49,337 ounces for the same period in 1995. This resulted from the mining of 6,487,200 tons of ore grading 0.018 ounces of gold per ton during the current period as compared to the 3,248,772 tons of ore grading 0.024 ounces of gold per ton which were mined during the nine months ended September 30, 1995. The average per ounce cash cost of gold production at the Rand Mine for the nine months ended September 30, 1996 was U.S.$227 per ounce as compared to U.S.$208 for the same period in the prior year. The Company expects that the Rand Mine will produce approximately 84,000 ounces of gold during the year ending December 31, 1996.

The increase in production during the current nine-month period resulted from a shift in mining from Rand's Baltic Pit to its Yellow Aster Pit, where the recovery rate of gold from ore is higher, and from an increase in the tons of ore mined. The higher cost per ounce of production encountered during the current period is the result of mining lower grade ore as compared to the same period during 1995.

As part of its optimization plan, the Company spent U.S.$13.0 million for the acquisition of a new mining fleet for the Rand Mine, including 5 new 190-ton trucks and a 27-cubic yard hydraulic shovel. This equipment which was acquired to optimize production from the Rand Mine, began operating in mid-October 1996. The Company estimates that the total cost of the optimization plan for the Rand Mine will be U.S.$15.5 million. The remaining costs of the plan will be paid from the Company's current working capital.

The Company anticipates that the introduction of the new mining fleet and of certain operational changes, including the increase of mining bench heights, will result in the production of approximately 90,000 ounces of gold per year from the Rand Mine, commencing in fiscal 1997, at a cash cost of production of U.S.$195 per ounce and total costs of production (including depreciation, amortization, corporate overhead, royalties and taxes) of U.S.$318 per ounce.

Metallurgical studies are continuing on unoxidized and mixed oxidized/unoxidized ore from the Baltic Pit to determine how to achieve optimum recovery from these types of ores.

The Company will use U.S.$8.4 million of the proceeds of this offering to repay bank indebtedness which was incurred in implementing part of the Rand Mine optimization plan. See "Use of Proceeds".

Pacific Amber Resources Limited

The Company currently owns 1,305,900 common shares of Pacific Amber Resources Limited ("Pacific Amber") which it acquired for Cdn.$1,802,528. The value of this holding in Pacific Amber, based on the closing price per share of Pacific Amber on the Vancouver Stock Exchange on November 14, 1996 of Cdn.$5.10, is Cdn.$6,660,090. James R. Billingsley, a director and officer of the Company, is a director of Pacific Amber.

Gunung Pani Joint Venture Project - Sulawesi Island, Indonesia

The Company has entered into a Letter Agreement with Paramount Ventures & Finance Inc. ("Paramount") of Vancouver, British Columbia, pursuant to which the Company has the option to earn 50% of Paramount's interest in the Gunung Pani Gold Project located on Sulawesi Island in Indonesia. The property consists of two parcels of land totalling 2,113 hectares, located just off a paved road 170 kilometers west of the capital of Sulawesi. Paramount has the option of earning an 80% interest in the property by paying all costs associated with the property until the time of delivery of a positive feasibility study and may increase its interest to 95% by making a cash payment of U.S.$15,000,000 to the property vendor. Paramount currently holds its interest in the property through a Memorandum of Understanding dated July 26, 1996 made with P.T. Pertiwi Nusamega ("Pertiwi") and a Joint Venture Agreement dated September 28, 1996 with Pertiwi. Pertiwi will hold the remaining 20% interest in the property upon the Company and Paramount exercising their option. The Joint Venture Agreement provides for the making of an application for contracts of work, which has not yet been made, with respect to the property. Paramount is currently in the process of preparing those applications.

The Company may exercise its option to earn a 40% interest in the Property by paying all exploration and development costs in respect of the project until delivery of a bankable feasibility study (the "Option Period") and will have the right to acquire one-half of the additional 15% interest which Paramount may acquire, for cash consideration of U.S.$7,500,000. During the Option Period, Paramount will be responsible for paying all other costs of maintaining the property in good standing. Upon exercise of the option, the Company and Paramount will each pay 50% of the costs of the project.

The Company will be the operator of exploration and development activities on the property during the Option Period and will remain as the operator after the exercise of the option.

Between 1981 and 1990, 29 diamond drill holes aggregating 4,556 meters and 3 adits totalling 220 meters were completed on the property by a major mining company. This work indicates the potential of a large disseminated gold deposit being located on the property.

The Company anticipates spending from U.S.$1,500,000 to U.S.$2,000,000 on the property during 1997, which funds will come from the

Company's current working capital.

As part of the transaction with Paramount, the Company acquired 2,000,000 special warrants of Paramount at a price of Cdn.$2.25 each, for a total consideration of Cdn.$4,500,000 (U.S.$3,300,000). Each special warrant is exercisable into one unit comprised of one common share of Paramount and one-half of one share purchase warrant. Each whole share purchase warrant is exercisable at Cdn.$2.50 to acquire one common share of Paramount over a one-year period. The value of the common shares of Paramount which underlie the special warrants acquired by the Company, based on the closing price for shares of Paramount on the Vancouver Stock Exchange on November 14, 1996 of Cdn.$1.90 is Cdn.$2,800,000.

Credit Facilities

The Company has a banking facility available for cash draws and letters of credit for security against future reclamation costs. The Company and the lender have amended the facility in order that the maximum facility, initially for U.S.$20.0 million, will be available with no repayments required in the first year of the five-year term. Each year, the term of the agreement will automatically be extended by one year unless either party determines otherwise. If an extension does not occur, the Company may immediately retire the loan with no penalty or bonus payment required or repay the loan over the remaining four years of the term. As at September 30, 1996 there were no cash borrowings under the existing banking facility but the lender had provided letters of credit for U.S.$4.7 million (December 31, 1995 – U.S.$4.7 million; June 30, 1995 – U.S.$4.7 million) to provide security for future reclamation costs. As at the date hereof U.S.$8.4 million in cash borrowings have been drawn, which will be repaid from the net proceeds of this offering.

Company Info - Reserve Estimates - Mine Locations - Press Releases - Financial Reports
More Info - Glamis Home

Page design copyright © 1996 **Palomar Media Corporation**. All rights reserved.
Registered trademarks are used under license and are the property of their respective owners.

RESPONSE TO COMMENT LETTER I002 RECEIVED FROM DAVID M. CHAMBERS, Ph.D. AND JAMES KUIPERS, P.E., CENTER FOR SCIENCE IN PUBLIC PARTICIPATION, DATED JANUARY 23, 1998

Response to Comment I002:001: The Draft EIS/EIR did not conclude that all of the alternatives were uneconomic; the Draft EIS/EIR stated that Glamis Imperial had indicated that each of the alternatives would not be economically viable projects. The Draft EIS/EIR completed a review of the environmental effects of each of the alternatives in conformance with NEPA and CEQA. Section 4.4.5.1. (pages 4-148 and 4-149) of the Draft EIS/EIR states that the impacts of the Complete Pit Backfill Alternative on vegetation and plant habitat would be essentially identical to those under the Proposed Action, but also states that the amount of surface area not reclaimed (pit slopes) would decrease and a somewhat larger percentage of the disturbed microphyll woodland habitat would be reclaimed because it would be reclaimed at grade. The impacts to vegetation and plant habitat are stated to be below the level of significance.

Revisions to the Final EIS/EIR: None.

Response to Comment I002:002: The feasibility of underground mining as an alternative to the Proposed Action was evaluated in Section 2.3.2.1. [Alternative Mining Techniques] (page 2-73) of the Draft EIS/EIR. The evaluation concluded by stating that "all potential underground mining alternatives were eliminated from further consideration as being economically infeasible."

Revisions to the Final EIS/EIR: None.

Response to Comment I002:003: See Response to Comment E001:011.

Response to Comment I002:004: See Response to Comment E001:011.

Response to Comment I002:005: See Response to Comment E001:009.

Response to Comment I002:006: See Response to Comment I013:099.

Response to Comment I002:007: SMARA Regulations [14 CCR 3704(d)] state that "Final reclaimed fill slopes, including permanent piles or dumps of mine waste rock and overburden, shall not exceed 2:1 (horizontal:vertical)." The reclamation conducted at the Picacho Mine used 2H:1V slopes for the waste rock stockpiles. As can be seen from the photographs in Attachment A and Attachment B of the Reclamation Plan (Appendix A of the Draft EIS/EIR), these reclaimed waste rock stockpiles at the Picacho Mine do not exhibit substantial erosion even after a number of heavy rain events (Personal Communication, Dan Purvance, Glamis Imperial, October 22, 1998).

RESPONSE TO COMMENT LETTER I002 RECEIVED FROM DAVID M. CHAMBERS, Ph.D. AND JAMES KUIPERS, P.E., CENTER FOR SCIENCE IN PUBLIC PARTICIPATION, DATED JANUARY 23, 1998

Revisions to the Final EIS/EIR: None.

Response to Comment I002:008: See Response to Comment E002:017.

Response to Comment I002:009: See Response to Comment E002:017.

Response to Comment I002:010: (The Following Response is Also Applicable to Comments F001:009, I004:002, I008:001, I010:021, I013:075, I013:146, I013:172, I013:173, I013:174, I013:175, I013:176, I013:177, I013:178, I013:179, I013:180, I013:181, I013:182, I013:183, I013:184, I013:185, I013:186, I013:187, I013:188, I013:189, I013:190, I013:191, I013:192, I013:193, I013:194, I013:195, I013:196, I013:197, I024:002, I025:002, I025:003, J007:003, J007:006, J007:013, J009:002, and J021:002.) (See Also Response to Comment F001:003.) Section 2.1.11.5. (page 2-49) of the Draft EIS/EIR states the following (which is paraphrased from Section 7 [page 70] of the Reclamation Plan [Appendix A of the Draft EIS/EIR]:

> "To establish an acceptable bonding instrument for the BLM, Imperial County and the California Department of Conservation, Glamis Imperial would post a bond for an amount consistent with the applicable portion of the calculated physical reclamation cost estimate of approximately $700,000.00, subject to agency review and approval (see Appendix A). Separate financial assurance, currently estimated at a total of approximately $2,040,000.00, would be posted with the CRWQCB to meet that agency's bonding requirements to cover the applicable costs of neutralization of the heap. All bonding would also conform with regulation 43 CFR 3809.1-9."

On May 13, 1998 the United States District Court ruled that the BLM's revised bonding regulations, and specifically the revisions to 43 CFR 3809.1-9, were invalid because the BLM violated the Regulatory Flexibility Act when the regulations were adopted on February 28, 1997. Therefore, the requirements of these invalid regulations, including the bonding for reclamation at either $2,000 per acre or 100 percent of the estimated cost of reclamation required by state and federal statues and regulations calculated as if third-party contractors were performing the reclamation after the site is vacated by the operator and third-party certification of these costs, are not required. However, the bonding requirements existing at 43 CFR 3809.1(a)-(g) prior to February 28, 1997 are still valid, including the 43 CFR 3809.1(b) requirement that "Any operator who conducts operations under an approved plan of operations as described in § 3809.1-5 of this title may, at the discretion of the authorized officer, be required to furnish a bond in an amount specified by the authorized officer

RESPONSE TO COMMENT LETTER I002 RECEIVED FROM DAVID M. CHAMBERS, Ph.D. AND JAMES KUIPERS, P.E., CENTER FOR SCIENCE IN PUBLIC PARTICIPATION, DATED JANUARY 23, 1998

. . . . In determining the amount of the bond, the authorized officer shall consider the estimated cost of reasonable stabilization and reclamation of areas disturbed." (*emphasis added*)

The final bond amount will be described in the BLM's decision regarding the Plan of Operation (and Imperial County's decision on the Reclamation Plan. The actual final bond amount is not relevant to the EIS/EIR required under NEPA/CEQA because the amount of the bond, which must conform to the applicable federal and state regulations, is designed to provide additional assurance that the mitigation measures (reclamation) would be implemented, and is not mitigation onto itself. The actual amount of the reclamation bond to be required is still under consideration by the BLM and Imperial County. On July 9, 1998 the BLM submitted a letter to Glamis Imperial requesting additional cost-related information "to assure compliance with the Bureau of Land Management's (BLM's) surface management regulations at Title 43 CFR 3809." This letter stated that:

"• For activities conducted under a plan of operations, the financial guarantee must be sufficient to cover 100 percent of the costs of reclamation required by State and Federal statutes and regulations and calculated as if third party contractors were performing the reclamation after the site is vacated by the operator.

"• A bond level not to exceed $2,000 per acre is required for reclamation of those portions of the operation not associated with cyanide and other leachates; however, those portions of the operation affected by cyanide and other leachates (i.e., leach heaps, pads or dumps or those parts which discharge cyanide bearing tailings and fluids to impoundments or ponds) are required to be bonded at 100% of the costs for reclamation.

"• In lieu of posting a bond with the BLM, [the BLM] will accept a state-held bond if it names the BLM as a co-beneficiary; covers 100% of the costs to reclaim areas of the operation affected by cyanide and other leachates; and falls within 75% of [the BLM] estimated costs to reclaim areas of the operation not associated with cyanide and other leachates. (43 CFR 3809.1-9, and Instructional Memorandum No. 90-582: Modification of the Bonding Policy for Plans of Operation Authorized by 43 CFR 3809)."

The letter then asked Glamis Imperial to provide additional information regarding the costs for: third-parties to backfill the West Pit and the Singer Pit if mining is terminated early; mobilization and demobilization of equipment; contractor overhead and profit; salvage of structures and facilities; removal of fences; construction of diversions; plugging and abandoning of the water wells; barricading the East Pit haul roads and slopes; disposal of concrete; removal of the process pond

RESPONSE TO COMMENT LETTER I002 RECEIVED FROM DAVID M. CHAMBERS, Ph.D. AND JAMES KUIPERS, P.E., CENTER FOR SCIENCE IN PUBLIC PARTICIPATION, DATED JANUARY 23, 1998

liner; neutralization of the heap leach pad and process area; revegetation and the revegetation monitoring program.

Glamis Imperial responded to the BLM letter in a July 14, 1998 letter which stated the following:

- complete backfilling of any of the pits is not a part of the proposed Reclamation Plan, nor is it proposed as a mitigation measure in the EIS/EIR under the preferred alternative, and therefore does not need to be bonded;
- third-party costs to mobilize/demobilize equipment are not required under 43 CFR 3809, but Glamis Imperial added this cost to the reclamation cost estimate (Table 7 of the Reclamation Plan, Appendix A of the Draft EIS/EIR) pending BLM clarification;
- contractor profit and overhead are also not required under 43 CFR 3809, but Glamis Imperial also added these costs to the reclamation cost estimate pending BLM clarification;
- the salvage values have greatly exceeded the salvage costs for structures and facilities at the mines in the vicinity of the Project, and the assumption in the reclamation cost estimate that these are equal is conservative;
- the salvage values have also greatly exceeded the salvage costs for fences at the mines in the vicinity of the Project, and the assumption in the reclamation cost estimate that these are equal is also conservative;
- diversion channels are constructed only as a consequence of mining activity and would not be necessary if mining activity was terminated early, so only diversion channel reclamation costs (which are already in the reclamation cost estimate) are appropriate cost of reclamation;
- barricading the East Pit perimeter would be accomplished as an initial part of mining activity of that pit, but an additional cost for this barricading has been added to the reclamation cost estimate;
- the costs for abandonment of the water wells have been increased in the reclamation cost estimate;
- the costs for disposal of the concrete have been increased in the reclamation cost estimate; the process area liner cost estimate is appropriate as contained in the reclamation cost estimate, but the reclamation cost estimate has been increased to account for the cost of the earthwork to reclaim the process ponds which was not previously included in the reclamation cost estimate;
- it is expected that the CRWQCB will require bonding sufficient to cover the entire $2.039 million estimated cost of detoxification of the heap and process area (Table 8, page 73 of the Reclamation Plan [Appendix A of the Draft EIS/EIR] presents the entire estimated cost of heap neutralization), plus a separate amount (currently estimated at $0.2 million) to be held to cover the cost of any corrective action for areas affected by processing activities;

RESPONSE TO COMMENT LETTER I002 RECEIVED FROM DAVID M. CHAMBERS, Ph.D. AND JAMES KUIPERS, P.E., CENTER FOR SCIENCE IN PUBLIC PARTICIPATION, DATED JANUARY 23, 1998

- the Reclamation Plan language regarding the duration of revegetation monitoring (page 68) will be changed to the following to be consistent with the language found in Mitigation Measure 4.1.5-21 in the Draft EIS/EIR ("It is recommended that final bond release shall occur when the vegetation success criteria set forth in the Reclamation Plan have been met and the reestablishment of vegetation is confirmed");
- the estimated costs of revegetation monitoring have been added to the reclamation cost estimate;
- the Reclamation Plan will be revised to use only volume references to the amount of seed required;
- the reclamation cost estimate has been revised to correct the number of acres in the heap slopes to be revegetated;
- the individual costs of seeding, topsoil and catchment construction for the waste rock stockpiles are approximately $567 per acre when the cost of earthwork is included, which is essentially identical to the approved revegetation cost per acre calculated for the combined American Girl Mine projects and twice the revegetation cost per acre calculated for the Picacho Mine.

These changes to the reclamation cost estimate (Table 7 of the Reclamation Plan, Appendix A of the Draft EIS/EIR) increase the estimated cost of reclamation to nearly $0.964 million, or approximately $707 per acre (or over $2,200 per acre if the cost of heap neutralization is included). The BLM has not yet responded to the Glamis Imperial letter.

Section 4.1.3.2.2. (page 4-22) of the Draft EIS/EIR concluded that the very low results of the SPLP extractions conducted on the rock materials (see Section 2.1.4.2. [page 2-13] of the Draft EIS/EIR), waters from rainfall would not be likely to leach substantial quantities of metals from the rock materials, and the potential for any long-term ground water quality degradation is well below the level of significance.

"Capital contingency," "engineering design," and "administration" costs have been covered in the revised physical reclamation cost estimate through the inclusion of both the "contingency for contractor," at 15 percent, and "supervision," at 7 percent. Table 8 of the Reclamation Plan (Appendix A of the Draft EIS/EIR) provides a calculation of the present value of the estimated heap neutralization costs using a discount rate of 10 percent; however, this discounted present value is not used by the CRWQCB in its calculation of required bonding.

The partial backfilling the East Pit or the West Pit to prevent a pit lake if mining is terminated early is covered by Mitigation Measures 4.1.5-5 (requiring backfilling of the East Pit to a level necessary to eliminate the potential for a pit lake from ground water), 4.1.5-48 (requiring backfilling of the

RESPONSE TO COMMENT LETTER I002 RECEIVED FROM DAVID M. CHAMBERS, Ph.D. AND JAMES KUIPERS, P.E., CENTER FOR SCIENCE IN PUBLIC PARTICIPATION, DATED JANUARY 23, 1998

West Pit to a level necessary to eliminate the potential for a pit lake from ground water), and 4.1.5-49 (requiring avoiding surface water runon and "rubblizing" the bottom of any open pit to absorb water). The partial backfilling of the West Pit, and the rubblizing" of the bottom of any pit to absorb water, are not proposed as part of the planned reclamation, and will not be added to the reclamation bond calculation. The implication that the (potential) partial backfilling of the East Pit, and the backfilling of the West Pit and Singer Pit, may have been a part of the Reclamation Plan (see Section 6.2. [page 20] of the Draft EIS/EIR) was inadvertent, and these statements will be removed from the Reclamation Plan and Section 2.1.11.1. (page 2-33) of the Draft EIS/EIR (Personal Communication, Steve Baumann, Glamis Imperial Corporation, October 27, 1998).

The term "N/A" used in Table 7 of the Reclamation Plan (Appendix A of the Draft EIS/EIR) means "not applicable," not "not available," and is used when the information which would be presented in that cell of the spreadsheet is "not applicable" to the calculation, such as when a lump sum cost is assumed. This reclamation cost estimate does not include the cost of agency monitoring as this is not a cost for which bonding is required. The BLM and Imperial County would annually review the progress of reclamation, and Glamis Imperial has requested, and the BLM and Imperial County have indicated their intent to require, that the total amount of the reclamation bond would be adjusted to reflect the total amount of reclamation which would be required to be completed for mining activity anticipated to be conducted through the next year based upon these annual reviews. Thus, it is clear that reclamation is not only required, but also bonded, if mining is terminated early. The comment that the reclamation bond should be at least $6,000 per acre is noted, although no basis is provided for this request.

The comment's concern for Glamis Imperial financial condition is noted. The reported financial statements for Glamis Gold Ltd. are public information and are prepared and audited in accordance with guidelines established by the Securities and Exchange commission. Financial information for Glamis Gold Ltd. is available through its quarterly and annual filings. See Response to Comment I015:002 regarding Galactic Resources and adequate financial assurance.

The costs associated with installation of and maintenance for the guzzler(s) suggested in Mitigation Measure 4.1.5-14 will be included in Table 7 of the Reclamation Plan.

Revisions to Final EIS/EIR: Correspondence from Glamis Imperial, dated June 15, 1998 and July 14, 1998, changing provisions of the proposed Imperial Project Reclamation Plan have been added to Volume I of the Final EIS/EIR as Appendices P and Q, respectively.

RESPONSE TO COMMENT LETTER I002 RECEIVED FROM DAVID M. CHAMBERS, Ph.D. AND JAMES KUIPERS, P.E., CENTER FOR SCIENCE IN PUBLIC PARTICIPATION, DATED JANUARY 23, 1998

Response to Comment I002:011: See Response to Comment I013:199.

Response to Comment I002:012: (The Following Response is Also Applicable to Comments I002:013, I002:014, I002:015, I002:016, I002:017, I002:018, I002:019, I002:020, I002:021, I002:022 and I002:023.) The comment provides a general cost-benefit analysis of the Complete Pit Backfill Alternative which, based upon the analysis of the data provided or available, purport to show that both the Proposed Action and the Complete Pit Backfill Alternative are economically feasible at a gold price of $400/ounce, but both are economically infeasible at a gold price of $280/ounce. The Draft and Final EIS/EIRs have made no judgement regarding the economic feasibility or infeasibility of this project. The principal issues are not of economic viability of the project, but of environmental impacts of the proposal.

The BLM responded to public requests for performance of an examination of valid existing rights (a validity exam) for the Glamis Imperial Corporation mineral claims of the Imperial Project. An investigation was initiated, but never completed, on the Glamis mining claims. Prior to completing a valid existing right determination, BLM chose to complete the EIS/EIR on the Project to conclude whether or not the Project would cause unnecessary or undue degradation, or undue impairment of resources of the CDCA.

Revisions to the Final EIS/EIR: None.

Response to Comment I002:013: See Response to Comment I002:012.

Response to Comment I002:014: See Response to Comment I002:012.

Response to Comment I002:015: See Response to Comment I002:012.

Response to Comment I002:016: See Response to Comment I002:012.

Response to Comment I002:017: See Response to Comment I002:012.

Response to Comment I002:018: See Response to Comment I002:012.

Response to Comment I002:019: See Response to Comment I002:012.

Response to Comment I002:020: See Response to Comment I002:012.

RESPONSE TO COMMENT LETTER I002 RECEIVED FROM DAVID M. CHAMBERS, Ph.D. AND JAMES KUIPERS, P.E., CENTER FOR SCIENCE IN PUBLIC PARTICIPATION, DATED JANUARY 23, 1998

Response to Comment I002:021: See Response to Comment I002:012.

Response to Comment I002:022: See Response to Comment I002:012.

Response to Comment I002:023: See Response to Comment I002:012.

GLAMIS IMPERIAL CORP.
A Subsidiary of Glamis Gold, Inc.

I003

February 11, 1998

Mr. Doug Romoli
U.S. Bureau of Land Management
1661 South 4th Street
El Centro, CA 92243-4561

RE: Glamis Imperial Project DEIS Comments

Mr. Romoli:

Please find enclosed my comments for the Glamis Imperial Project Draft Environmental Impact Statement.

001 Page S-30 & 4-70
Mitigation #4.1.5-21, the last sentence incorrectly states the standards for the revegetation success. Standards for revegetation success are based on achievable plant diversity and density, not as stated plant cover and density.

002 Page 2-29 & 4-75
Last paragraph regarding tortoise exclusion fencing construction is inconsistent, The document states fencing would consist of 1.5 feet of 0.5-inch mesh hardware cloth above ground surface. On page 4-75, paragraph (3) states hardware cloth shall extend at least 24 inches above ground.

003 Page 3-72 & 4-58
Other Special Status Wildlife Species Section: The paragraph regarding the presence flat-tailed horn lizards is inconsistent. The section starts out stating flat-tailed horn lizards were recorded during the surveys. On page 4-58, the paragraph regarding flat-tailed horn lizards states there were no flat tailed horn lizards observed during biological surveys. To my knowledge, no flat tailed horn lizards were recorded during the biological surveys.

Thank you for the opportunity to review the document.

Sincerely,

Dan Purvance
Glamis Imperial Corp.

cc: SLB

P.O. BOX 1177, WINTERHAVEN, CALIFORNIA 92283 (760) 337-1891 (520) 783-1891 FAX (520) 782-9921

RESPONSE TO COMMENT LETTER I003 RECEIVED FROM DAN PURVANCE, GLAMIS IMPERIAL CORP., DATED FEBRUARY 11, 1998

Response to Comment I003:001: See Response to Comment E002:017.

Response to Comment I003:002: The tortoise exclusion fencing described on page 2-29 is that proposed by the Applicant, while the fencing described on page 4-75 is contained in Mitigation Measure 4.1.5-29. Most importantly, both descriptions explicitly state that the final design would be approved by the appropriate agencies. ("The tortoise-proof fence construction, and material specification, would be approved by the BLM prior to installation." [page 29] "The final fence design shall be discussed with and found acceptable to the USFWS, BLM, and CDFG. The desert tortoise exclusion fence must meet the following preliminary design specifications:" [page 4-74].)

Revisions to the Final EIS/EIR: None.

Response to Comment I003:003: See Response to Comment F002:008.

I004

Tom Myers, Ph.D.
Hydrologic Consultant
200 Bartlett St.
Reno, NV 89512
(702) 348-1759
tom@black-rock.reno.nv.us

February 20, 1998

Bureau of Land Management
1661 South 4th Street
El Centro, California 92243

Attn: Douglas Romoli

Re: Imperial Project DEIS Review

Dear Mr. Romoli:

I have been asked to review the water resources aspects of the DEIS for the Imperial Chemgold Project by the Sierra Club and Desert Protective Council. This letter summarizes my comments.

001 Appendix E-1 supposedly provides the technical documentation for the water resources discussion in the DEIS. However, the appendix was prepared for the first draft of the DEIS and was not changed. However, the new DEIS contains updated hydrology. This dichotomy between documents is confusing, a disservice to the public, and illegal. Council on Environmental Quality Regulations clearly requires that:

> If an agency prepares an appendix to an environmental impact statement the appendix shall: (a) Consist of material prepared in connection with an environmental impact statement (as distinct from material which is not so prepared and which is incorporated by reference (Sec. 1502.21)).(b) Normally consist of material which substantiates any analysis fundamental to the impact statement.(c) Normally be analytic and relevant to the decision to be made. (Section 1502.18)

If the appendix is wrong, it clearly does not substantiate "any analysis fundamental to the impact statement." Also, it cannot "be analytic and relevant to the decision to be made." The DEIS and appendices should be rewritten to correct the errors.

My review below focuses on three areas, the impact of the pits on regional groundwater resources, of the production well(s) on the regional groundwater resources and of diverting surface water channels (waters of the United States) around the pit and other facilities on downstream riparian and microphyll woodlands.

Potential Impacts of the Open Pit on Groundwater Flow

002 The proposed project consists of three open pits, two of which will extend below the groundwater table. There is a commitment in the DEIS to backfill two pits with overburden from other pits and to backfill the third to the groundwater level, if necessary, therefore Appendix E indicates there will be no pit lake formed[1]. However, if the mining company terminates mining before the proposed plan of operations, backfilling will not be completed. BLM should require adequate bonding to assure that the pits will backfilled as promised in the DEIS since all impact analysis assumes the pits will fill.

003 Backfilled pit lakes will contain rock that has been pulverized and crushed. The hydraulic properties of the backfill will be much different than those existing in the pit before mining. Conductivity will probably be many times higher than the surrounding rock. This will create preferential flow zones which will change flow patterns throughout the region. It will also induce infiltration to deeper levels. Currently, it is unlikely that much rainfall infiltrates deeply. But substantial rains on the backfilled pit will infiltrate rapidly, decreasing water availability for any vegetation that may try to grow (either planted or colonizers) on the backfilled pit. It will also intercept flow in washes that may flow across the backfill.

004 The wetting and drying of the backfilled material presents a problem for water quality. It is the persistent exposure to air and water that causes acid mine drainage and the mobilization of heavy metals. The presence of sulfate in the groundwater (Table 2 and 3, Appendix E-2) suggests suphitic rock exists in the area. PH may currently be normal because the rock has not been through drying and wetting cycles. Future AMD may leach into groundwater from flow through the backfilled pits. To plan for uncertainty, the BLM should propose treatment methods, in perpetuity, to prevent the degradation of groundwater quality. However, the BLM relies on analyses of a few rock samples in Appendix C-2 to conclude that AMD will not occur. The BLM should require observation wells downgradient from the pits that will allow a monitoring of water quality with time after mining ceases. If measurements indicate a problem, wells downgradient from the pit may be required to collect the flow for treatment. The FEIS must analyze these possibilities and provide for their mitigation. Even if the risks of groundwater degradation are low, the impacts would be high and the BLM is responsible to plan for these risks.

005 Calculations of inflow to the pit suggest low flow rates, but the data used to make the calculations are not well documented. Implications are that all flow will come from the bedrock aquifer. However, well MW#1 is upgradient from the pits and is an alluvial monitoring well (data reported on Table 4.2, Appendix E-1). Yet, Figure 4-4, a cross-section of the pit to the production well, shows MW#1 in conglomerate. Either Table 4.2 provides incorrect information, or Figure 4-4 is incorrect. If MW#1 has a water level in alluvium (as implied in Table 4.2), then

---

[1]Because of the high evaporation rate and low expected inflow, there would probably not be a pit lake. However, an unfilled pit lake would be a sump to which groundwater would flow and evaporate thereby creating a permanent discharge point in the aquifer.

inflow to the pits will be from alluvium which has a much higher conductivity than the bedrock. This suggests much more flow to the pits, and potential dewatering requirements.

However, it may be that high levels in MW#1 represent perched water because it is very unlikely that recharge to the regional groundwater occurs in the Chocolate Mountains (Loeltz et al, 1975). Perched water would exist due to infiltration of wash flow.

Production Well Pumpage

006 The mine proponent proposes to pump 725 gpm or 1170 af/y from a well (or several wells mentioned in the FEIS) several miles southwest of the mine site. The issues with this well include the impacts of the drawdown cone on surface ecological resources and neighboring wells. The primary factors to consider are the source of water for the well, the aquifer properties and their determination, and the analysis of the drawdown cone for the well.

007 Aquifers all have recharge and discharge zones. The DEIS and appendices discuss recharge to this aquifer in a very cursory manner and ignore discharge zones except for mention of several wells. It is important to consider that every aquifer that is in semiequilibrium (recharge equals discharge) in its natural (predevelopment) state becomes out of equilibrium in its developed state. All pumpage reduces natural discharge at some point. The natural discharge zones for the aquifer under consideration herein (the Amos/Ogilby basin) is probably in wetlands near the Salton Sea[2]. The final EIS should determine and discuss the natural discharge.

008 Presumably to suggest that the total pumpage is minuscule, Appendix E-1 (page 8) states the "usable and recoverable water" in the aquifer is 126,000,000 acre-feet. This seems to be an incredibly large number to present without discussion. The area of the Amos/Ogilby basin is 440 miles[2] or 281,600 acres. If we assume the porosity is 0.2[3], then the average thickness of water bearing formation is 2237 feet. At several points Appendix E-1 notes the depth to water is several hundred feet. At other points, the aquifer thickness on the boundaries of the basin is only tens of feet[4], therefore the thickness in the middle must be much higher than the average, presumably more than 3000 feet. With the depth to water, Appendix E-1 suggests that water deeper than 3000 feet is "usable and recoverable". At least the DEIS (page 3-22) acknowledges the depth. This is ludicrous and the whole paragraph (2nd full paragraph, page 8, Appendix E-1) should be removed or changed to discuss that which is readily available at recoverable depths. It

---

[2]Figure 4.1 (Appendix E-1) shows a gradient to the northwest toward the Salton Sea. However, Loeltz et al (1975) indicate that observed spring discharge near the Salton Sea commenced with the construction of the unlined canals.

[3]This means that a cubic foot of aquifer holds 0.2 cubic feet of water.

[4]If bedrock is considered to contain some of the 126,000,000 af, then the average thickness is much larger because the porosity would be close to 0.02 to 0.002.

may be that the amount removed over the project life, 24,000 af (DEIS, page 4-21), represents a significant percentage of the recoverable storage in the aquifer. It certainly does in the immediate vicinity of the mine proposal.

009 Appendix E-1 discusses groundwater flow direction in the unconfined alluvial aquifer near the mine site as being southwest at a gradient of 0.02. Figure 4-4 (Appendix E-1) suggests there is no water in the alluvium at the mine site. However, a gradient with water connected between aquifer types suggest that flow does occur with origins in the mountains. The DEIS estimates a recharge area upstream from the production well equal to 30,000 acres with one to ten percent recharge of 9,000 af/y of precipitation occurring. (In Nevada, where I more frequently work, recharge to the regional aquifers in zones of precipitation less than 8 inches is considered to be zero.) This is 90 to 900 af/y of recharge above the well. (If this amount of recharge occurred throughout the basin, the reported recharge would be much higher than 30,000 af/y, see below.) The reference, (Gsi/Water, 1993) chronologically precedes the other studies in this project, yet is not referenced in the appendix nor is a copy appended to the report. The BLM has a responsibility under CEQ to provide generally unavailable references[5]. The BLM should explain why it accepts recharge estimates from this report rather than those from the US Geological Survey (Loeltz et al, 1975). "Only on the higher alluvial slopes of the mountains bordering the southwest side of Imperial Valley is the precipitation sufficient to provide recharge by direct infiltration" (Loeltz et al, 1975, page 21-23). This means that recharge does not occur in the Chocolate Mountains.

A more likely explanation for the apparent gradient and recharge is that perched water occurs due to localized recharge that does not reach the regional aquifers. That the well levels above the mine exceed those below the mine may be due more to local geology than regional flow or recharge. However, perched water is responsible for maintaining small seeps and intermittent flow in the washes which is essential for the wildlife of the area. If the pumpage, through partial connections, lowers the level of perched water, the impacts on wildlife will be devastating.

---

[5]CEQ, Sec. 1502.21 "Incorporation by reference. Agencies shall incorporate material into an environmental impact statement by reference when the effect will be to cut down on bulk without impeding agency and public review of the action. The incorporated material shall be cited in the statement and its content briefly described. **No material may be incorporated by reference unless it is reasonably available for inspection by potentially interested persons within the time allowed for comment.** Material based on proprietary data which is itself not available for review and comment shall not be incorporated by reference." (Emphasis added). This reference was not attached or available for inspection.

010 The recharge to the basin is quoted as being 100,000 acre-feet/year in Appendix E-1 without any significant discussion of where the recharge occurs. The original source[6] suggests that the 100,000 af/y comes from the All-American Canal and 20,000 af/y comes from the Colorado River, then concludes that the total recharge is 100,000 af/y. Rising water tables caused by All-American Canal infiltration probably diverted much of the natural recharge from the Colorado River to the Amos/Ogilby basin. However, these rising water tables also suggest that a groundwater divide exists with substantial recharge flowing to Mexico. In a letter written in response to the first Imperial DEIS, Metropolitan Water District claimed that most water from the All-American Canal is not available in this basin[7]. Quoting this letter:

> ...All American Canal seepage from Imperial Dam to Pilot Knob returns to the Colorado River; and
>
> 3. All American Canal seepage from Pilot Knob to Drop 4 is estimated to be 91,600 acre-feet per year, 90 percent of which flows beneath the international boundary into Mexico.
>
> Based on the above documented information, annual recharge into the Amos-Ogilby-East Mesa Basin consists of approximately 20,000 acre-feet per year from the Colorado River and 9,160 acre-feet from the All American Canal for a total of approximately 29,000 acre-feet. **Please revise the analysis of Hydrologic Resources to incorporate this information.** (Emphases added)

As discussed above, the BLM did not revise Appendix E-1, but the DEIS does refer to 30,000 af/y as the appropriate value (pages 3-22 and 4-19)[8]. However, the estimate of 30,000 af/y is suspect. The BLM ignored the conclusion of Loeltz et al (1975) who write (page 20):

> The leakage caused ground-water ridges to form beneath the canals almost immediately, and in time, the tops of the ridges intercepted the canals. The leakage also spread horizontally, thereby causing water levels over large areas to rise many tens of feet. Eventually much of the recharge due to the leakage, especially from the All-American Canal, caused additional discharge to drains and areas of natural discharge, rather than continuing to add to the quantity of ground water stored in the system.

---

[6]Environmental Solutions, Inc., 1993. Hydrogeologic Assessment Report: Mesquite Regional Landfill.

[7]Letter from Laura J. Simonek, Principal Environmental Specialist for the Metropolitan Water District of Southern California to Mr. Keith Shone, Bureau of Land Management, El Centro, dated December 23, 1996.

[8]Apparently, the BLM chose to update the number in the DEIS based on the letter above and several personal communications with Bureau of Reclamation staff, page 3-22.

Thus, the current losses from the All American Canal return to the river or discharge in wetland areas formed near the canal. The recharge will probably do very little to recharge pumpage from this project.

011 *Production Well*: Appendix E-1 evaluates the effect of pumping the production well with a very cursory discussion (Section 6.2, Appendix E-1) and the DEIS references this appendix. I assume that no groundwater model code was utilized. Based on the drawdown cones being presented as perfect semicircles, I conclude that a cursory analytical technique was used to analyze the pumping. In the regional environment with a gradient to the northwest, a drawdown cone would be elliptical. Analytic techniques do not accommodate the flow barriers to the northeast, east and southeast. These geologic structures would further alter the shape of the cone, probably increasing the drawdown to the west. The DEIS suggests the calculations are conservative (FEIS, page 4-19) because they "(2) ...do not account for aquifer recharge...and (3) the aquifer may be much thicker than assumed" (Appendix E-1, page 22). Unfortunately, analytic methods often assume an aquifer of infinite extent for which supply does not limit the flow. The quoted statement is incorrect. The aquifer may be thicker, but semiconfining layers of fine grained sediments that limit vertical conductivity render this possibility moot.

Because the basin is hydraulically connected to the Colorado River, Appendix E-1 should assess whether pumpage increases flow from the river to the basin. The Colorado River is totally overappropriated which has caused massive damage to ecologic resources along the river and downstream in Mexico. Any pumpage which further decreases the flow will directly cause additional damage to these resources. Metropolitan Water District even suggests that a diversion application from the Colorado River will be needed[9].

Finally, all recharge discussed occurs, if at all, miles from the well. This production well will essentially be mining the local groundwater since almost no recharge occurs in the mountains to the east and southeast. Appendix E-1 should be honest and show where the recharge occurs and discuss how long, if ever, it takes for flow from the recharge zones to reach the wells. A question to consider is whether the production well is upgradient from the primary regional flow.

All of these issues regarding recharge render statements in the DEIS (page 4-21) about the insignificance of impacts incorrect. Because it is unlikely that 30,000 af/y is the actual recharge, stating that the production pumping represents four percent of the recharge is incorrect. It is also disingenuous when the distance of the recharge zones from the well is considered.

In order for the public to have any confidence in the analysis of the production well, the authors must describe their calculation methodology, at least by reference and a listing of parameter values and assumptions in the method. Because of all the uncertainties in the analysis outlined above, a groundwater model should be used to assess how much water comes from the All American Canal and the Colorado River, how long before this recharge reaches the well and

[9]See the letter in note 6.

the actual drawdown and time for recovery in areas near the mountain which may have small seeps.

Surface Water Flows/Waters of the US

012 There are no surface water sources on the site or in the immediate vicinity except for some ephemeral washes (which were flowing during my site visit February 5 and 6, 1998). Diversions of water courses cause the primary impacts.

I obtained copies of the computer output for the calculations in Table 3.2. The numbers appear to be okay, however it is difficult to determine where the 100-year rainfall depths were obtained. I recommend including an analysis of rainfall at El Centro,Yuma, and any other location with sufficient record to estimate the 100-year depth. Then, the same computer analysis should be rerun with the new depth.

Also, calculation of stormflows for 100% containment from a one-hour PMP event may have used inaccurate rainfall values (DEIS, page 4-10). At least, the DEIS does not adequately reference the source of the values. The DEIS states that the PMP was ... 4.65" by averaging the PMP values for Yuma, Arizona and El Centro, California". These areas are in the middle of broad valleys with no orographic influence at all. The minesite is next to a mountain range with up to 1500' of relief. BLM should expect major storms to be larger at the site than at either of these cities. Also, Needles, CA received 5.12 inches in one day from a tropical storm in 1939 ((Metzger and Loeltz, 1973). The assumption of 5 inches in the PMP barely exceeds the 100-year storm value used for the diversion channels. BLM should reconsider the precipitation values used for these storms.

013 All diversion channels around the pits will interrupt the flow of sediment and water to downstream riparian ecosystems. The associated water and nutrient inputs to these areas is essential for their long-term maintenance. Erosion from the mine project facilities will cause sedimentation to inundate the vegetation (DEIS, page 4-10). This erosion could cause various chemicals stored on site to reach and damage the ecosystems. The BLM should require mitigation/bonding to remedy any problems caused to these rare ecosystems.

Summary and Recommendations

014 This DEIS and associated appendices inadequately analyze the impacts of the this project, primarily the production well on the groundwater resources of the area. The recharge to the basin is incorrectly stated. There is no groundwater model that could be used to assess the impacts. For this reason, the DEIS should be rewritten to include the results of a groundwater model of the basin to be affected by the production well.

Sincerely,

Tom Myers, Ph.D.
Hydrologic Consultant

References

Loeltz, O.J., B. Irelan, J.H. Robison and F.H. Olmstead, 1975. Geohydrologic reconnaissance of the Imperial Valley, California. US Geological Survey Professional Paper 486-K.

Metzer, D.G. and O.J. Loeltz, 1973. Geohydrology of the Needles area, Arizona, California, and Nevada. US Geological Survey Professional Paper 486-J.

RESPONSE TO COMMENT LETTER I004 RECEIVED FROM TOM MYERS, Ph.D., HYDROLOGIC CONSULTANT, DATED FEBRUARY 20, 1998

Response to Comment I004:001: Technical Appendix E-1 was not changed because Technical Appendix E-2 was prepared as a supplement. As stated on page 1 of Technical Appendix E-2, this report was specifically prepared to: supplement the information contained in Technical Appendix E-1; document additional hydrogeologic information developed by the applicant; present the results of water sampling and analyses conducted for the EIS/EIR; and present additional discussions based upon this data.

Revisions to the Final EIS/EIR: None.

Response to Comment I004:002: See Response to Comment I002:010.

Response to Comment I004:003: (The Following Response is Also Applicable to Comments I004:005, I008:002 and I008:004.) WESTEC (1996) present calculations on permeability of the pit wall rock material and calculations of flow into the pit (see Appendix E-1 of the Draft EIS/EIR). Test data indicate that the bedrock in the pit area has a low permeability, on the order of 1×10^{-6} to 1×10^{-7} cm/sec, which means that very little ground water is flowing across the pit area.

Most of the waste rock placed in the West Pit will be unconsolidated or cemented alluvial deposits and minor amounts of volcanic rock which overly the Singer Pit and the East Pit. This material will not be crushed or pulverized; as stated in Section 2.1.3. of the Draft EIS/EIR, mining of the unconsolidated gravels may not even require blasting. When backfilled into the pits, this material will probably have a permeability greater than ten times the bedrock pit walls. However, ground water will not be able to infiltrate to greater depths since it is only the very bottom of the pit which intercepts the ground water in the first place.

The backfilled pits will be completed and graded in the same manner as the waste rock stockpiles, and thus the surfaces of the backfilled pits will infiltrate rainfall in a manner identical to the waste rock stockpiles. Section 4.1.3.1.2. (page 4-9) of the Draft EIS/EIR states that the waste rock stockpiles would be porous, and that precipitation falling on the waste rock stockpiles would infiltrate more than the undisturbed areas. However, as stated in Section 2.1.11.3.2. (page 2-43) of the Draft EIS/EIR, "Final regrading (the tops and slopes of the waste rock stockpiles and the leach pad, the bottoms of the open pits, and haul roads) would entail the construction of catchment basins (to catch rainfall) to facilitate the revegetation of the disturbed areas." This has proven effective in the revegetation of the Picacho Mine (see Attachment A and Attachment B to Appendix A of the Draft EIS/EIR), and is expected to prove as effective in the reclamation/revegetation of the Imperial Project. Thus, rainfall infiltration rates would not limit the revegetation of the backfilled pits.

RESPONSE TO COMMENT LETTER I004 RECEIVED FROM TOM MYERS, Ph.D., HYDROLOGIC CONSULTANT, DATED FEBRUARY 20, 1998

Skibitzke and Bowen (1981) [Skibitzke, Herbert E. and Roberta A. Bowen. 1981. "Development of Modeling Techniques for Determining Direction of Ground-Water Flow," Unpublished Report] used potential theory to calculate the impact of a circular body of infinite permeability in a planar flow net. They note that this impact is not substantially different than the impact of a circular body of permeability greater than ten times the surrounding material. The change in the flow pattern is negligible at a distance of one half-width of the circular body from the edge of the circular body. Since the half-width (or radius) of the West Pit at the water table is approximately 800 feet (WESTEC 1996), the disturbance in the surrounding flow field would only extend 400 feet beyond the edge of the pit. Therefore, the changed flow pattern will be confined to a circular area centered on the center of the pit with a diameter of approximately 1,600 feet; a change on this scale could not be considered as "regional." Further, as stated in Section 3.3.1. (page 3-10) of the Draft EIS/EIR, there are no spring or seeps or water wells in this area that could be affected by this scale of change in the ground water flow pattern.

The backfilled West Pit and Singer Pit will not intercept surface water flow from washes because the washes will be permanently diverted around the pits (see Section 2.1.9.7., page 2-28), and both pits will be backfilled to an elevation substantially higher than the surrounding grade (see Figure 2.4 of the Draft EIS/EIR).

Figure 4-4 of Appendix E-1 of the Draft EIS/EIR (or Figure 3.11 of the Draft EIS/EIR) is a cross-section which shows the East Pit geometry as well as the geology surrounding the East Pit based on exploration drilling. This figure also shows the position of the conglomerate penetrated by monitoring well MW #1. The East Pit walls below the water table are surrounded by at least 800 feet of low-permeability bedrock; thus, the conglomerate penetrated by monitoring well MW #1 is separated from the East Pit wall by about 800 feet of lower-permeability bedrock. Therefore, the use of the bedrock permeability values in the pit inflow calculations was appropriate.

Revisions to the Final EIS/EIR: None.

Response to Comment I004:004: (The Following Response is Also Applicable to Comment I008:003.) Section 3.1 (page 3-9) of the Draft EIS/EIR states that, based on the drill core information obtained for the areas of the pits, the rocks at the proposed pits are oxidized to depths of approximately 1,500 feet below ground surface. The sulfate measured in the ground water is more likely due to the ground waters' equilibration with gypsum ($CaSO_4 \cdot 2H_2O$) and/or barite ($BaSO_4$) rather than any sulfide minerals which, as also noted in Section 3.1 (page 3-9) of the Draft EIS/EIR, have not been observed in the ore or waste.

RESPONSE TO COMMENT LETTER I004 RECEIVED FROM TOM MYERS, Ph.D., HYDROLOGIC CONSULTANT, DATED FEBRUARY 20, 1998

The nine samples analyzed as part of the waste characterization study conducted to determine the acid generation and metals mobility potential of the rock which may be used to backfill either the West Pit or East Pit in the Imperial Project pits were determined sufficient to adequately characterize the rock types present in the Imperial Project pits since there are only four rock types, the samples locations were well distributed over the sources of the rock (see Figure 1 of Appendix C-2), the individual samples were composites of cores over substantial depth intervals (see Table 1 of Appendix C-2), and the individual samples were large (40 pounds). No additional samples are necessary.

The results of the static testing of these samples show that the waste rock has an average net neutralizing potential of 29.2 tons $CaCO_3$ per 1,000 tons material, which means that the rock has a very strong natural acid-neutralizing capacity (see Appendix C-2). This is primarily due to very low to non-detect concentrations of sulfide sulfur, and the presence of secondary calcite mineralization in the waste rock. Synthetic leach analyses also showed little or no mobilization of dissolved constituents from the waste rock material. Thus, there is no data which would indicate any potential for acid mine drainage; in fact, all of the data indicates exactly the opposite, that the rock will be strongly acid-neutralizing. Accordingly, no mitigation measures for acid mine drainage are necessary.

As stated in Section 2.1.8.3. (page 2-19), Glamis Imperial has already installed two ground water monitoring wells, one located at the upgradient boundary and one located at the downgradient boundary of the Project mine and process area near the heap, and quarterly samples of the ground water are being taken. A ground water monitoring program for these would be implemented by Glamis Imperial to sample and test the ground water passing beneath the leach pad and ponds to detect leakage, if any, from these facilities into this ground water. Mitigation Measure 4.1.3.2-5 also requires Glamis Imperial to monitor ground water quality data pursuant to the requirements of the Monitoring and Reporting Program issued by the CRWQCB. Because of the location of the monitoring wells, the data collected from these wells could also be used to determine if substantial changes to water quality were occurring as a result of any backfill in the East Pit.

Revisions to the Final EIS/EIR: None.

Response to Comment I004:005: See Response to Comment I004:003.

Response to Comment I004:006: (The Following Response is Also Applicable to Comment I008:005.) Comment noted. These issues and factors are extensively discussed in Section 3.3.2 and Section 4.1.3.2, and Appendix E-1, of the Draft EIS/EIR.

RESPONSE TO COMMENT LETTER I004 RECEIVED FROM TOM MYERS, Ph.D., HYDROLOGIC CONSULTANT, DATED FEBRUARY 20, 1998

Revisions to the Final EIS/EIR: None.

Response to Comment I004:007: (The Following Response is Also Applicable to Comment I008:006.) Section 3.3.2.1. (page 3-22) of the Draft EIS/EIR estimates that recharge to the Amos-Ogilby-East Mesa basin is about 30,000 acre-feet per year (afy), of which 20,000 afy may be natural seepage from the Colorado River and 10,000 afy may be from leakage from the All American Canal. Based on published ground water gradients (WESTEC 1996; Dutcher et al. 1972; Loeltz et al. 1975), the "natural" discharge of this inflow is probably mostly lateral underflow to the west into the main Imperial Valley Area Basin. Some discharge may be vertical downward flow which feeds the hydrothermal convection systems beneath the Imperial Valley. However, it is unlikely that the natural discharge zones for the Amos-Ogilby-East Mesa basin are "in wetlands near the Salton Sea," since Loeltz, et al. (1975) estimated that direct recharge to the Imperial Valley Area Basin from agriculture alone to be 400,000 afy, which masks the lateral inflow. Much of this recharge is captured in the agricultural tile drain system which outflows directly to the Salton Sea. The impact of a slight decrease in flow to the Main Imperial Valley Area Basin would be negligible since this basin has such a high recharge rate from agriculture.

As stated in Section 3.3.1. (pages 3-10 and 3-11) of the Draft EIS/EIR, there are no springs or seeps within the Project area, and the only known natural ground water discharges in the basin in the vicinity of the Project area are several small, isolated, ephemeral water seeps located in the vicinity of the Algodones Sand Dunes which are thought to not be associated with discharges of basin ground water.

Section 3.3.2.1. (pages 3-29 through 3-30) of the Draft EIS/EIR estimates that ground water is currently pumped from the Amos-Ogilby basin in the vicinity of the Project area at a total pumping rate of about 1,700 afy. The Project proposes to pump up to an additional 1,170 afy. Considering the enormous volume of water stored in the basin (estimated in Section 3.3.2.1. [page 3-22] of the Draft EIS/EIR at 230,000,000 acre-feet) and the great distance to the areas of natural discharge, most of this pumpage will likely be accounted for by a reduction in ground water in storage, and would only result in *de minimus* reduction in natural discharge (lateral underflow to the west into the main Imperial Valley Area Basin) over time. This is a potential effect that is below the level of significance.

Revisions to the Final EIS/EIR: None.

Response to Comment I004:008: (The Following Response is Also Applicable to Comment I008:007.) The estimate of recoverable water in the Amos-Ogilby basin of 126,000,000 acre-feet

RESPONSE TO COMMENT LETTER I004 RECEIVED FROM TOM MYERS, Ph.D., HYDROLOGIC CONSULTANT, DATED FEBRUARY 20, 1998

presented and discussed in Appendix E-1 and Section 3.3.2 (page 3-22) of the Draft EIS/EIR was calculated by the U.S. Geological Survey (Dutcher et al. 1972). Dutcher et al. (1972) calculated the usable water in the upper water bearing alluvial deposits at depths of less than 3,000 feet below ground-surface for several different sub-areas of the Imperial Valley. The Sand Hills sub-area of Dutcher et al. (1972) is nearly equivalent to Amos-Ogilby ground water basin. The U.S. Geological Survey used a basin area of 450 square miles for this sub-area, and a specific yield of 0.2. The calculation was also based on an aquifer depth of 3,000 feet, or to the bedrock surface, or the 100° centigrade temperature surface, whichever was less. Therefore, the U.S. Geological Survey calculations took into account the fact that the water-bearing formations are thinner on the eastern boundary due to the shallow depth to bedrock. The U.S. Geological Survey calculations, by definition, did not include water in storage at depths greater than 3,000 feet. Based upon these U.S. Geological Survey calculations, the estimated total quantity of ground water of (less than) 24,000 acre-feet over twenty years is less than 0.02 percent of the useable and recoverable ground water stored in the aquifer. It is also less than 4 percent of the recharge into the basin over the same period of time. Based upon the criteria set forth in Section 4.1.3.2.1. (page 4-18) of the Draft EIS/EIR, the volume and rate of ground water estimated to be consumed by the Project was determined to be *de minimus* and below the level of significance.

Revisions to the Final EIS/EIR: None.

Response to Comment I004:009: (The Following Response is Also Applicable to Comment I008:008.) The reference to the recharge method "used in Nevada" is to an empirical method of estimating recharge used for reconnaissance estimates of ground water recharge based on elevation-related precipitation zones. This method provides that recharge in areas with less than eight inches per year of precipitation is minor (not zero, as stated by the comment). Because this method is used for reconnaissance level estimates, it does not consider factors based on observations of local geology and hydrogeology.

We believe that the comment has interpreted the quote from Loeltz et al. (1975) out of context by failing to consider the next sentence in the report. To quote both sentences from Loeltz et al. (1975): "Only on the higher alluvial slopes of the mountains bordering the southwest side of Imperial Valley is the precipitation sufficient to provide recharge by direct infiltration. Recharge also results from infiltration of runoff, mainly in washes, and drainageways that discharge to the central part of the valley or to the Salton Sea." A more correct interpretation of Loeltz et al. (1975) would be that recharge of direct precipitation may not be occurring in the watershed above ground water well PW-1, but recharge is occurring as a result of infiltration of runoff in the washes found in the

RESPONSE TO COMMENT LETTER I004 RECEIVED FROM TOM MYERS, Ph.D., HYDROLOGIC CONSULTANT, DATED FEBRUARY 20, 1998

watershed above the well. This recharge has caused a ground water gradient measured in the Project area from the mountains to the southwest.

The Gsi/Water report was neither included as an appendix to the Draft EIS/EIR, nor was it incorporated by reference into the Draft EIS/EIR. However, it was among the references used to prepare the Draft EIS/EIR (see Chapter 9 of the Draft EIS/EIR). Consistent with the requirements of NEPA and CEQA and their implementing regulations and guidelines, copies of all of the relevant sections of each of the references used for the Draft EIS/EIR were made available for review in the offices of the BLM, El Centro Field Office.

As discussed in Section 3.3.1. (pages 3-10 and 3-11) of the Draft EIS/EIR, there are no springs, seeps or streams within the Project area, and the perennial water sources closest to the Project area within the ground water basin are all man-made canals over fifteen miles distant. Figure 3.11 and Figure 3.12 of the Draft EIS/EIR, which are simplified cross-sections through the Project area, show why this is the case; the ground water levels in all wells in the Project area are at least 400 feet below the surrounding ground surface, and thus cannot discharge to any seeps or springs or support any intermittent flow to the washes. Further, there was no indication during well drilling or exploration drilling of perched ground water being present in these areas. This is why Section 4.1.3.2.2. (pages 4-18 through 4-21) of the Draft EIS/EIR concludes that ground water production would not result in a significant affect to the ground water aquifer or natural discharges, and Section 4.1.5.3.1. (page 4-53) concludes that Project production of ground water would not impact wildlife or wildlife habitat.

Instead of being perched ground water, the water level profile and water level gradient discussed in Appendix E-1 and the comment is more likely the manifestation of some recharge in the mountains with downward and lateral flow to the regional valley aquifer. Where there is a ground water gradient there must be flow; however, in the Project area the ground water flow rate is probably low due to low permeability of the bedrock formation found in the Project area.

Revisions to the Final EIS/EIR: None.

Response to Comment I004:010: (The Following Response is Also Applicable to Comments I008:009 and I008:010.) This issue is fully discussed in the first paragraphs of Section 3.3.2. and Section 3.3.2.1. (pages 3-18 through 3-22) of the Draft EIS/EIR. Section 3.3.2. of the Draft EIS/EIR points out that the 1996 Draft EIS/EIR was specifically modified in response to comments regarding the rate of recharge to the basin. Section 3.3.2.1 of the Draft EIS/EIR discusses that recharge to the Amos-Ogilby-East Mesa Basin was historically reported in published documents at about

RESPONSE TO COMMENT LETTER I004 RECEIVED FROM TOM MYERS, Ph.D., HYDROLOGIC CONSULTANT, DATED FEBRUARY 20, 1998

100,000 acre-feet per year. This is the recharge rate presented in Appendix E-1 to the Draft EIS/EIR, which was prepared in February, 1996. However, based on comments to the 1996 Draft EIS/EIR (including the comment letter from the Metropolitan Water District quoted by the comment, which provided an essentially identical estimate of recharge, and which was treated as a scoping comment for the 1997 Draft EIS/EIR) and unpublished analyses from the U.S. Bureau of Reclamation and the U.S. Geological Survey, the recharge estimate was revised down to 30,000 acre-feet per year, due principally to the extensive pumping south of the All American Canal. Section 3.3.2.1. of the Draft EIS/EIR was modified to reflect these more current estimates by the U.S. Geological Survey and the U.S. Bureau of Reclamation. This is fully discussed in Section 3.3.2.1. of the Draft EIS/EIR, and there is no requirement under NEPA or the CEQ guidelines, nor technical rationale, for revising the text of Appendix E-1 of the Draft EIS/EIR.

The comment's conclusion that the recharge estimate of 30,000 acre-feet per year is suspect does not logically follow from the Loeltz et al. (1975) quote that is provided in the comment. In this quote Loeltz et al. (1975) does not say that the recharge is not occurring; Loeltz et al. (1975) simply states that after a significant increase in storage the system approached equilibrium, discharge rates increased to the new level of recharge, and no additional increase in ground-water storage occurred. The estimate of recharge to the Amos-Ogilby-East Mesa Basin of about 30,000 acre-feet per year is the current consensus estimate of the U.S. Geological Survey and the U.S. Bureau of Reclamation, and is so reported in Section 3.3.2.1. (page 3-22) of the Draft EIS/EIR.

Revisions to the Final EIS/EIR: None.

Response to Comment I004:011: (The Following Response is Also Applicable to Comments I004:014, I008:011, I008:018.) The methodology used to calculate drawdown from ground water production from the well field is summarized in Section 4.1.3.2.2. (pages 4-19 and 4-20) of the Draft EIS/EIR from Section 6.2 (pages 21 through 23) of Appendix E-1 of the Draft EIS/EIR. Tables of values used for the calculations are listed in Tables 4.2 and Table 4.3 of the Draft EIS/EIR. Calculation were made using a widely accepted analytical model for flow to a well called the "Theis" equation, which is referenced in Appendix E-1 to Kruseman, 1991 (Kruseman, G.P. and N.A. de Ridder, 1991, "Analysis and Evaluation of Pumping Test Data, Second Edition," International Institute for Land Reclamation and Improvement). The assumptions of the Theis equation model can be found in this or any other hydrogeology text book. The use of a numerical model is not necessary due to the insubstantial quantity of the ground water extracted by the Project when compared to the substantial amount of usable and recoverable ground water in the basin and the substantial recharge rate for the basin.

RESPONSE TO COMMENT LETTER I004 RECEIVED FROM TOM MYERS, Ph.D., HYDROLOGIC CONSULTANT, DATED FEBRUARY 20, 1998

The drawdown analysis contained in the Draft EIS/EIR is conservative, in part because leakage of ground water from semiconfining layers of fine-grained sediments into the aquifer is very substantial. As time goes on during well pumpage, more and more well discharge from the aquifer is derived from leakage into the aquifer and ultimately, as the flow becomes steady, the entire yield is derived from leakage of these sediments into the aquifer (Davis and DeWiest 1966) [Davis, Stanley N. and Roger J. DeWiest. 1966. *Hydrogeology*, John Wiley & Sons, Inc.]. Therefore, the cone of depression will not extend out even as far as predicted by the Theis model used in the calculations in the Draft EIS/EIR, and the boundary impacts hypothesized by the comment will not be appreciable.

Section 3.3.2.1. of the Draft EIS/EIR discusses the sources of ground water recharge to the basin; "Relatively little recharge comes from infiltration of local precipitation and runoff (page 3-22)." Pumping of ground water from the Project well field will cause a local reduction in ground water storage. Table 4.2 in the Draft EIS/EIR notes that drawdowns of from 10.4 feet to 24.4 feet may be expected out to a distance of 1,000 feet from the well(s) after 20 years of pumping, and drawdowns of 5.1 feet to 13.8 feet out to a distance of 10,000 feet from the well(s) after 20 years of pumping may also be expected. By definition, this represents mining of the local ground water in the vicinity of the well field during the years of ground water production. Also, drawdowns in the three wells in the vicinity of the Project well field were only 3.7 feet to 1.8 feet after 20 years of pumping. However, this total of approximately 24,000 acre-feet of water extracted over the 20-year life of the Project (which represents just 0.01 per cent of the estimated 230,000,000 acre-feet of usable and recoverable water in the Amos-Ogilby-East Mesa Basin) will be replaced over some period of time following the cessation of pumping by a portion of the 30,000 acre-feet per year of total recharge to the Amos-Ogilby-East Mesa Basin (the annual pumping of 1,170 acre-feet per year is only four percent of the total annual basin recharge of 30,000 acre-feet per year). [See "Response to Comment I004:010" for a discussion of the validity of the 30,000 acre-foot annual recharge.] Because, as stated in Section 4.1.3.2.2. (page 4-20) of the Draft EIS/EIR, neither the aquifer drawdowns, nor the drawdowns in the wells, is significant, the actual time necessary to restore the water levels to pre-Project conditions would not affect the assessment of significance, and the impact on ground water in storage will be below the level of significance.

Because the drawdown conservatively predicted by the model from pumping the Project wells is less than one foot at the distance from the production wells of either the All American Canal or the Colorado River (see Figure 6.1 of Appendix E-1 of the Draft EIS/EIR), pumping of ground water by the Project would not likely appreciably increase seepage from either of these sources of water recharge to the basin. Further, as stated in Section 3.3.1. (pages 3-10 and 3-11) of the Draft EIS/EIR, there are no springs, seeps or streams within the Project area, and the perennial water sources closest to the Project area within the ground water basin are all man-made canals over fifteen miles distant.

RESPONSE TO COMMENT LETTER I004 RECEIVED FROM TOM MYERS, Ph.D., HYDROLOGIC CONSULTANT, DATED FEBRUARY 20, 1998

For all of the reasons stated above, the statements made in Section 4.1.3.2.2. and Section 4.1.3.2.4., that the effects of the Proposed Action to ground water resources would be below the level of significance, remain correct.

Revisions to the Final EIS/EIR: None.

Response to Comment I004:012: See Response to Comment E001:011.

Response to Comment I004:013: See Response to Comment I008:013.

Response to Comment I004:014: See Response to Comment I004:011.

I005

Bob Ellis
Communications Director
Desert Survivors
P.O. Box 20991
Oakland, CA 94620-0991
(510) 526-3788

DESERT SURVIVORS

2/22/98

Douglas Romoli,
Glamis Imperial Project DEIS
BLM El Centro Resource Area
1661 South 4th Street
El Centro, CA 92243

RE: **Glamis Imperial Project DRAFT EIS Comments**

Dear Sir:

Thank you for the opportunity to comment on the Glamis Corporation's Imperial Project Draft Environmental Impact Statement.

001 Desert Survivors is an environmentally-oriented organization of people interested in the conservation of desert and arid areas in California and Nevada. Our focus is to educate people about desert and arid area protection issues by leading trips, publishing informational materials and working with public land managers and advocates to protect and conserve our rapidly vanishing natural areas. We long been involved in California desert protection issues working for passage of the California Desert Protection Act and commenting on numerous management actions in the various BLM resource areas. We have lead hikes into the Cargo Muchacho Mountains and have hiked in the Picacho Peak area. The BLM's Picacho Recreation Lands are very important to our group. We have walked the ground, we have beheld the views, we have been awed by the archaeological richness of the area. We are an interested party and a staunch defender of its natural values. We look forward to the BLM stepping up to its responsibility as protective steward of these lands. This area is worth saving for our future generations as a natural area.

As Communications Director for Desert Survivors I have written articles regarding this area in our quarterly journal, *The Survivor*, as well as connecting with numerous other people and groups who have an interest in preserving this land both as a sacred area as well as for secular environmental and recreational purposes. I have had the privilege of hearing from and talking to the Quechan cultural leaders regarding their feeling for this land. I have made two trips to the area in the past two months to see what was on the land so I could contrast with your descriptions in the Draft EIR. I have come away with strong personal attachments to this area and an interest in its preservation. As Communications Director of Desert Survivors I am glad to be able to represent our group in presenting these comments to you.

Desert Survivors Supports the NO Action Alternative. We feel you have no other choice given your legal mandate to manage these lands for future generations. Below is a summary of major points made, then a listing of concerns with the Draft Plan as a whole.

MAJOR POINTS IN FAVOR OF THE NO ACTION ALTERNATIVE

002 **The NO Action Alternative is the Only Legal Choice Possible Under 43 CFR 3809 - All the other alternatives clearly cause "unnecessary and undue degradation of the federal lands."** All the other alternatives call for the construction and abandonment of a 300 foot high mile-long mountain of acid-drenched tailings. The proposed alternative even calls for the construction and abandonment of an 800 foot deep almost mile-wide crater. In no possible way can this be considered as other than undue degradation of the federal lands. The law is very clear here. If you read it as though you are seeing it for the first time as a reasonable person, there is no way on earth that you can consider walking away from this site leaving gigantic waste pyramids and gaping craters as anything other than "undue degradation." It certainly is not "due degradation," the land does not deserve this. I know you have rationalized this type of destruction in other places. The time to stop is now. Obey the letter of the law.

003 **The NO Action Alternative is the Only Legal Choice Possible under the California Desert Protection Act.** You are required by Congress to manage these California Desert Lands as Class L: "oriented towards giving priority protection to sensitive natural, scenic, ecological, and cultural resources while placing limitations on other uses that may conflict with or degrade these values." This is a sensitive natural area (desert tortoise, pavement, fairy duster). This is a sensitive scenic area (BLM Picacho Recreation Lands). This is a sensitive ecological area (microphyll woodlands). This is a sensitive cultural area (archaeology and Quechan spiritual usage, Indian Pass/Running Man Area of Traditional Cultural Concern). The EIR clearly shows the ways in which the proposed project will conflict and degrade all of these values. OK, Now you are supposed to limit the other uses. Limit means put a stop to; Just say No Action to this project.

004 **The NO Action Alternative is the Only Choice in compliance with President Clinton's Executive Order 13007 - Non-degradation of Indian Sacred Lands.** All the other alternatives cause irreparable un-mitigatible damage to the Quechan cultural/religious practices. The EIR provides an excellent review of the Quechan and other tribe's cultural usage and connections to this land. It also very clearly shows how severely the damage will be to the tribe's practices if this project goes forward. Executive Order 13007, Congressional actions such as the American Indian Religious Freedom Act and the Religious Freedom Restoration Act, and the recent action by the Forest Service in the Mount Shasta California ski project all make clear that an agency charged with stewardship of federal lands must take action to protect Native American sacred lands. These tribes have a "extreme and solemn relationship with the land." In EO 13007, the nation's president has declared that agencies: *"shall to the extent practicable, permitted by law, and not clearly inconsistent with essential agency functions, (1) accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners and (2) avoid adversely affecting the physical integrity of such sacred sites."* The No Action Alternative

is practical, it is permitted by law, it is not clearly inconsistent with essential agency functions, and it does not adversely affect the physical integrity of the sacred site. All other alternatives significantly adversely affect the site. Desert Survivors stands squarely in favor of federal agencies supporting Native American sacred lands recognition. The government must realize the depth of support that most people have for non-destructive uses of the un-spoiled federal public lands that you are responsible for. You must declare the No Action Alternative.

005 The NO Action Alternative is the Only Choice given federal government's duty to promote tribal self-determination. Because of the special relationship between the federal government and federally recognized Indian tribes, accommodations made for tribal religious practices or sacred sites are not religious preferences but political preferences conferred by the federal government on a quasi-sovereign in furtherance of the federal government's duty to promote tribal self-determination, which includes enabling the tribe to protect the culture that helps to define it. Here is a clear case requiring this preference. The Quechan Tribe is stating that their culture, their self-determining spiritual practices, will be irreparably harmed by this project. Your only choice is the No Action Alternative.

006 The NO Action Alternative is the Only Choice you have given the current price of gold ($294/oz) and the projected production costs of the mine of over $310/oz. This mine is not economic and therefore not a viable claim. Today's gold prices are down to $294/oz. The Glamis Corporation published projections two years ago indicating that their production costs for the Imperial mine would be over $310/oz. This was before the current EIR and before added mitigation requirements were included. I am sure that the current projection of production costs will be as high or higher. Most analysts not affiliated with the gold market will agree that for the foreseeable future the price of gold will stay down. National governments are selling their reserves, alternatives metals are becoming available, and a gradual realization by the public of the destructive origin of gold is leading to reduced demand for this metal. There is no strategic mineral here. The BLM is not required to promote a Non-economic mining operation. Do the math. There is no current economic gain in wrecking this land.

007 The No Action Alternative is the Only Choice you have based upon a Comparative Value Test. Your agency is charged with determining the best usage of these lands when competing uses conflict. The EIR clearly demonstrates the non-mitigatable and un-replaceable values here in historic, archaeological, cultural, natural, and recreational resources. You cannot reasonably choose to place the private value of the non-strategic minerals of these lands above the public value retained by leaving the lands intact. Here again I cite the recent Forest Service ruling rejecting the proposal to build a ski area on Mount Shasta in northern California. Here also the local Native Americans had consistently described their sacred land connections to the area. Environmentalists described the natural values, the rare fir forest, and the values of primitive recreation. After years of contention, the regional forest service manager had the courage to reject the proposal stating that the comparative values of the un-spoiled land was greater than "just another ski resort." You have a similar opportunity to make the right decision here. The time to do it is now. Don't wait for prolonged litigation. Declare the No Action Alternative.

MAIN CONCERNS WITH THE CONTENT OF THE DRAFT EIR

In reviewing the EIR their were numerous elements which were not complete, were obsolete, or were just missing. Below are a few which should be corrected if you are going to continue forward with this process.

008 Alternatives Choices Limited By Use of High Gold Price - The section which describes how certain alternatives were discarded from full consideration used the figure of $400/oz as the price of gold. This is certainly obsolete information and I think other alternatives might have been considered if the current price had been used.

009 EIR lacks and information regarding the Glamis Corporation's basis for stating that certain alternatives were not economic. Several times references are made to company assertions that certain alternatives would be un-economic. This information by itself is meaningless. The company must have a consistent cost projection upon which it makes these statements. In fact they have included some estimates in their corporate promotional materials. This information needs to be in the EIR to allow the public to assess the reasonableness of their claims of unprofitability.

010 The EIR lacks any alternative for complete reclamation. The construction and abandonment of 300 foot high mile long acid drenched waste piles is not complete reclamation. This should be presented as an alternative. It may be considered not economic by the proposer, but needs to be presented to show the true extent of damage proposed by the operator. The days of waiving complete reclamation are numbered. Leaving damaged lands are just an additional corporate welfare subsidy that the American people are being asked to continue supporting.

011 The EIR lacks any consultation with other tribes with involvement in these lands. Just as the Quechan consider their sacred lands to extend up the Colorado River at least to Spirit Mountain near Laughlin, Nevada, the Mojave and other area tribes have connections to the Picacho lands.

012 The Plant surveys were incomplete. As an amateur botanist I am not qualified to perform any official surveys, but I can recognize a great many of the plants in the desert areas. In each of the two trips I made to the project site in the past two months, I saw species which were not on the EIR botanical survey list. I am sure quite a few others have been missed also.

013 The EIR contained no disclosure of the Glamis Corporation's adjoining mineral claims. The section of the EIR containing cumulative impacts should at least contain the extent of contiguous mining claims held by the same corporation proposing the project. These are clearly being held for expansion of the operation's area and once a operation has started it will be that much more difficult to deny extensions to the plan of operations. Many projects get started by understating the true extend of the corporation's intent. An acceptance of the first phase impact is obtained and then the real agenda is revealed. Please include these claims and the possible future extend and impacts if these claims are activated.

014 The EIR has no specific noise data capture information. All we have are estimates which seem fairly high as I understand that most quite desert areas have decibel readings in the 15 to 18 range, much lower than the higher "quiet" estimates given in the EIR. It is not difficult to get proper readings for this area. It is not particularly expensive. Lets get baseline of quietude. This should be standard practice now that equipment is available. Federal agencies have not been pressed on this issue very much as yet. Well its time to start routinely collecting this data. You are charged with protection of this resource as well.

015 The EIR has no specific recreation use data even though it is the "most heavily used dispersed recreation area east of the Imperial Sand Dunes Recreation Area." and advertised by the BLM as the Picacho Recreation Lands. How about some counts on usage on the Indian Pass Road. I am sure that in the past ten years the amount of travel has doubled with the increased popularity of 4-wheel drive vehicles. Most of these dirt road travelers are not out to tour mine sites, they want to see unspoiled natural lands, they want to see "Back-Country," they want to have "off-road" experiences, not disturbed area experiences. If the BLM continues to ignore these users in favor of the large developers, there will be more and more of these struggles to defend public lands for non-destructive uses. The BLM needs to quantify these users in the area. Lets get out there and count.

016 The EIR hydrology data is incomplete and in places misleading. Planning of the storm events is done using non-standard event times so that inadequate storm reservoirs are planned. Please revisit this material and complete the work.

017 The EIR is quite casual in section dealing with the endangered desert tortoise. There is no information regarding the cumulative impacts on the tortoise from this and other mines in the area. Any taking of these animals is significant and not something to be stuck in a corner and rolled over.

018 The EIR does not do a good job of presenting the real visual impact of this project. The chosen view points, while representing popular points of view and showing photograph-like representations of the changes, are not able to give one the immense change in focus these waste piles will cause. First of all there is no total area diagram showing the range of miles in each direction that the impact of the project would be visible from. When hiking in the Cargo Muchacho Mountains, in the Indian Pass wilderness, in the Picacho Peak Wilderness, on Black Mountain, on numerous surrounding hills and knolls; the 300 foot high mounds will be seen. They will directly contrast in shape with the natural contours of the land so that the eye will be directly drawn to them. Lets include a map of this sort showing the number of square miles of surrounding area which will be visually impaired. This is one of the largest changes and you are not giving us, the public, any good way of assessing the impact unless we have gone there.

019 The EIR does not give a clear explanation of the possible protective status of the Indian/Pass Running Man Area of Traditional Cultural Concern. I understand that this was a designation chosen because there were no clearly defined boundaries provided by the Quechan tribe defining sacred lands from non-sacred lands. More work needs to be done here. Perhaps

the National Park Service can be consulted with respect to how these values can be worked into a protectable designation a Traditional Cultural Property for the National Register of Historic Places.

WRAP UP

020 I think you have the opportunity to make a clear statement here. This is a very special area to many people from disparate backgrounds. The law already provides several clear directions for you to make the decision for the No Action Alternative. This is not the area to house "another heap leach gold mine." This IS the area to defend as a beautiful un-spoiled natural and sacred area with "limited" multiple use. The limits are: no destructive development. No Strip Mines on The Trail of Dreams. Lets replace this project proposal with a Request for Withdrawal from Mining Claim Entry. Lets keep the Picacho Recreation Lands intact. The BLM needs to stand up and lead the way forward toward responsible land stewardship. Desert Survivors is very supportive of BLM efforts in this direction. We ought to be able to find a way to manage non-wilderness public lands with outstanding natural qualities without this sort of conflict over destructive proposals.

Thanks for your time and keep us informed of any new information about these issues. I would be happy to discuss any questions you have regarding these comments.

Sincerely yours,

Bob Ellis
Communications Director
Desert Survivors

RESPONSE TO COMMENT LETTER I005 RECEIVED FROM BOB ELLIS, COMMUNICATIONS DIRECTOR, DESERT SURVIVORS, DATED FEBRUARY 22, 1998

Response to Comment I005:001: See Response to General Comment 002.

Response to Comment I005:002: See Response to Comment I010:002.

Response to Comment I005:003: See Response to Comment I010:002.

Response to Comment I005:004: (The Following Response is Also Applicable to Comments I010:013, I012:007, I012:008, I012:009, I012:043, I013:318, I013:319, I013:355, I018:002, I018:003 and J013:005.) The Draft EIS/EIR briefly discusses Executive Order No. 13007 in Section 3.6.2.2. and Section 4.1.13.2. However, discussion of any prohibition which this order may create regarding possible destruction of any Native American sacred sites or ensuring access to any Native American sacred sites is an issue which the BLM considers more appropriately as part of the BLM's decision-making process regarding the Plan of Operation, rather than as part of the environmental assessment required under NEPA, and this issue will be appropriately addressed in the Record of Decision.

Revisions to the Final EIS/EIR: None.

Response to Comment I005:005: See Response to Comment E001:013.

Response to Comment I005:006: See Response to Comment I010:006.

Response to Comment I005:007: See Response to Comment I015:007.

Response to Comment I005:008: As stated in Section 2.3.2.1. [Alternative Mining Techniques] (page 2-73), alternatives which were determined uneconomic at a gold price of $400.00, and therefore eliminated from further consideration, would be even less economic at any lower gold price.

Revisions to the Final EIS/EIR: None.

Response to Comment I005:009: See Response to Comment I002:001.

Response to Comment I005:010: (The Following Response is Also Applicable to Comments J017:005, J021:003 and J029:006.) Comments noted. Section 2.2.3. (pages 2-61 through 2-63) of the Draft EIS/EIR describes the Complete Pit Backfill Alternative, which may be what is requested.

RESPONSE TO COMMENT LETTER I005 RECEIVED FROM BOB ELLIS, COMMUNICATIONS DIRECTOR, DESERT SURVIVORS, DATED FEBRUARY 22, 1998

Section 4.4. (pages 4-146 through 4-154) analyze the potential environmental impacts of this alternative. Section 2.11.1. (pages 2-32 through 2-49) also provides a summary of the complete reclamation proposed for the Project; Appendix A of the Draft EIS/EIR, Reclamation Plan, further details the reclamation planned for the Project.

Revisions to the Final EIS/EIR: None.

Response to Comment I005:011: See Response to Comment I012:048.

Response to Comment I005:012: (The Following Response is Also Applicable to Comments E001:018, I001:001, I007:001, I013:143, I013:147, I013:279, I013:280, I013:282, I013:283, I013:284, I013:285, I013:286, I013:287, I015:022, I024:009, J001:001, J001:002, J006:003, J007:002, J009:006, M001:005 and M004:002.) The Vegetation Baseline Survey is contained in Appendix F of the Draft EIS/EIR. The findings of the survey are summarized in Section 3.5.5 on pages 3-48 through 3-52 of the Draft EIS/EIR. The Biological Survey Report is contained in Appendix H of the Draft EIS/EIR, and is summarized in Section 3.5.5.2. on pages 3-56 through 3-57 of the Draft EIS/EIR. The Wash Vegetation and Habitat Survey is contained in Appendix G of the Draft EIS/EIR. The findings of the survey are summarized in Section 3.5.5. on pages 3-48 through 3-52 of the Draft EIS/EIR.

As stated in Appendix H, the objective of the Biological Survey Report "was to identify the presence and distribution of listed and sensitive species of wildlife and plants, as determined through field inspection, database review and literature sources." Transect surveys of the Project area for these listed and sensitive species were conducted during July, August, and September, 1994; and February, March, April, and May, 1995, timed in part to inventory plants during the two blooming periods - spring and fall. Section C of the Biological Survey Report contains the following description of the methodology employed, which are standard methods used nationwide to survey large areas: "The entire Project area was systematically surveyed for listed and sensitive . . . plant species . . . . Surveys consisted of walking 30-foot wide parallel transects across this area." In addition, "Supplemental plant surveys . . . were scheduled to provide coverage throughout the phenological periods for sensitive ephemeral species . . . . All surveys were conducted on foot. All washes greater than five feet in width were walked during both survey periods . . . . Approximately 35-40 miles were walked during the 1995 survey period." The qualifications of the team performing the Biological Survey Report are listed in Appendix A of Appendix F of the Draft EIS/EIR. The members of this team have extensive local field experience in conducting such surveys. In summary, these surveys for listed and sensitive plant species were conducted using standard methods during the appropriate times of the year by individuals qualified to conduct the surveys, and no substantive evidence has been presented in the comment which refutes the results of these surveys.

RESPONSE TO COMMENT LETTER I005 RECEIVED FROM BOB ELLIS, COMMUNICATIONS DIRECTOR, DESERT SURVIVORS, DATED FEBRUARY 22, 1998

Concurrent with these transect surveys for listed and sensitive species, Appendix H states that the "field biologists recorded all other plant and wildlife species and sign observed." Thus, the general species lists produced as a result of the botanical surveys (provided as Appendix B to Appendix H of the Draft EIS/EIR and summarized in Section 3.5.5. of the Draft EIS/EIR) were never intended to be an absolute, comprehensive list of all of the species which may be present in the Project area, and such an absolute listing is not required. Certain species may have had periods of dormancy that coincided with the timing of the surveys, or the thirteen plant species reported identified by the comment as not being on the survey species list may have been observed at locations not actually within the survey area. None of the plant species indicated in the comment as not being on the observed species list are plant species of concern (i.e., threatened, rare or endangered species; USFWS special status species; or BLM sensitive plant species). The species *Mammillaria tetrancistra* reported as observed within the wash channel was also listed as observed within the Project area in Appendix B to Appendix H of the Draft EIS/EIR.

As stated in Appendix F, the Vegetation Baseline Survey "presents information on the vegetation resources with emphasis on present vegetative conditions." The "quantitative descriptions include percent of vegetative cover in addition to density and diversity measurements." [As described in Section 3.5.5.2 of the Draft EIS/EIR, the surveys for plant species of concern were part of the Biological Survey Report (Appendix H) and were not part of the Vegetation Baseline Survey.] The Vegetation Baseline Survey report characterizes the vegetation types within the Project mine and process area, and also contains a list of species observed during the survey. The survey also determined vegetative and ground cover and perennial plant diversity and density on multiple transects across each of the identified vegetation types.

The survey, performed in June 1995, followed a period of record rains during the first half of 1995. As stated in the Biological Survey Report, it was the professional opinion of the botanist, Mr. Sam Bamberg, that plant production and growth was at a peak during the time of the survey as a result of the preceding record rainfall. Rainfall data collected by the Imperial Irrigation District in Imperial, California indicates that the rainfall for the years 1992-1995 at Imperial, California was the highest total in the last 15-20 years. Each member of the team performing the Baseline Vegetation Survey, and especially Mr. Bamberg, had substantial local experience conducting similar surveys at the nearby Picacho Mine and American Girl Mine. However, whether the results of this survey represent a period of high or low plant density, diversity, or cover is not relevant to the issue of reclamation success, as these results are not intended to provide the criteria for measuring reclamation (revegetation) success. As stated in Section 2.1.11.4.1. of the Draft EIS/EIR, "At the time of sampling for bond release, concurrent and comparable monitoring would be conducted in the same years on undisturbed sites and reclaimed areas within the Project area." Therefore, measurements of cover, density, and diversity values at any one point in time prior to reclamation is not relevant

RESPONSE TO COMMENT LETTER I005 RECEIVED FROM BOB ELLIS, COMMUNICATIONS DIRECTOR, DESERT SURVIVORS, DATED FEBRUARY 22, 1998

to determining revegetation success because reclamation success will be measured by comparing these values from reclaimed areas and undisturbed areas at the same time.

On page 3-48 of Section 3.5.5 of the Draft EIS/EIR, the date of the Wash Vegetation and Habitat Survey report, May 1997, was inadvertently reported as the date of the field survey; the field survey was actually conducted in January 1997.

There is no evidence to suggest that the fundamental botanical species composition of the Project area has changed in the period since the botanical surveys were completed. Comments made of observations of unusually lush conditions and extended blooming periods in the Project vicinity during the El Ninó year of 1997-1998 do not substantively change the findings or conclusions made in the Draft EIS/EIR. Also, there is no regulatory requirement or survey protocol which dictates the need for conducting new surveys, in part because there have been no changes in the federal or state lists of threatened, endangered, and rare species that relate to species that occur or have habitat within the vicinity of the Project since completion of the surveys. Since revegetation success will be measured against undisturbed plots at the time that the revegetation surveys are done, there is also no necessity to have cover, density, or diversity data for each year prior to disturbance.

Revisions to the Final EIS/EIR: The third sentence of the fourth paragraph on page 3-48 of the Draft EIS/EIR has been amended as follows: "Approximately 95 percent of the Project mine and process area and the Project ancillary area is the shrub/scrub ~~with an almost non-existent~~ type with minimal vegetative ground cover observed during the field surveys of these areas."

A sentence has been added to the end of the fourth paragraph on page 3-51 in Section 3.5.5 of the Draft EIS/EIR to clarify the relative conditions observed during the vegetation survey of 1995 as follows: "Whether or not the vegetative cover and diversity observed during the survey were the highest possible in the Project area, the conditions observed were of the vegetative cover and density that had been attained in the area following three years of conditions favoring vegetative success."

A parenthetical statement has been added to the end of the sentence on the seventh line of the first paragraph of Section 3.5.5.2. (page 3-56) of the Draft EIS/EIR as follows: "A total of 116 plant taxa were identified within the survey area (Comments on the Draft EIS/EIR reported observations by others during late 1997 and early 1998 identifying thirteen additional plant species thought to occur within the Project area, although no additional plant species of concern were reported as being present within the Project area.). This includes a few introduced species of plants, mainly annuals such as mustards and grasses."

RESPONSE TO COMMENT LETTER I005 RECEIVED FROM BOB ELLIS, COMMUNICATIONS DIRECTOR, DESERT SURVIVORS, DATED FEBRUARY 22, 1998

The date of the survey described in the first sentence of the third paragraph on page 3-48 of Section 3.5.5 of the Draft EIS/EIR has been corrected as follows: "In addition to the baseline vegetation survey of the Project mine and process area and buffer zone, a quantitative wash vegetation and habitat survey was conducted in ~~May~~ January, 1997 by Bamberg and Associates (Bamberg 1997b)."

Response to Comment I005:013: See Response to Comment I012:042.

Response to Comment I005:014: (The Following Response is Also Applicable to Comments I009:021, I009:041, I013:403, I013:404, I013:405, I015:027, M001:004.) As stated in Section 3.8.2. (page 3-99) of the Draft EIS/EIR, the "ambient noise levels in the Project area and vicinity are assumed low and typical of isolated desert areas. However, the estimated range of baseline noise levels presented in this sentence (35 to 50 dBA) was a typographical error, and should have read "15 dBA to 50 dBA." This range of noise levels is typical of generally quiet, open space areas which are affected by the types of existing noise-generating activities (vehicle traffic, military aircraft maneuvers, military weapons explosions, military aircraft overflights, military helicopter use, dispersed recreational activities, mineral exploration activities, and natural sources) identified in this sentence as occurring in the Project area. These sound levels approximate the measured outdoor day-night average wilderness ambient sound levels (L_{dn}) of approximately 35 dBA reported by the EPA (U.S. Environmental Protection Agency. 1974. *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*. EPA/ONAC 550/9-74-004 [March 1974]). This sentence will be revised in the Final EIS/EIR to correct the typographical error and clarify that the range includes the effects of the listed noise sources.

A baseline noise survey of the Project area would provide site-specific data for the time period measured. However, site-specific data would not change the general characterization of the existing ambient noise within the Project area as "low and typical of isolated desert areas." Site-specific data is not required for the noise analysis conducted in Section 4.1.8.2. of the Draft EIS/EIR, and site-specific data would not change the results of the impact analysis. Further site-specific data would not change the determination of the significance of the noise impacts of the Project described in Section 4.1.8.2. and Section 4.1.8.4. of the Draft EIS/EIR (see Response to Comment I009:041).

The list of existing noise-generating activities in the area of the Project presented on page 3-99 (Section 3.8.2.) of the Draft EIS/EIR specifically describes three of the seven as being either infrequent or intermittent. All of the other noise generating sources (including mineral exploration) could also be accurately categorized as either infrequent or intermittent. This section of the Draft EIS/EIR describes the affected environment, so the fact that it does not attempt to describe the noise

RESPONSE TO COMMENT LETTER I005 RECEIVED FROM BOB ELLIS, COMMUNICATIONS DIRECTOR, DESERT SURVIVORS, DATED FEBRUARY 22, 1998

emissions of the Project is appropriate. Section 4.1.8.2. of the Draft EIS/EIR describes the sources of noise that would be generated from the Project (see also the Response to Comment I009:029).

Revisions to the Final EIS/EIR: The second sentence in the third paragraph on page 3-99 of the Draft EIS/EIR has been amended to read: "However, the range of ambient noise levels in the Project area and vicinity are assumed low and typical of isolated desert areas (i.e., ~~35~~ 15 to 50 dBA)~~, except as~~ which may be modified by ~~those~~ noise generating activities such as those in the Project area and vicinity, including: . . ."

Response to Comment I005:015: (See Also Response to Comment I009:023.) Comment noted. Section 3.9.2.3. (page 3-104) of the Draft EIS/EIR notes that the closest park lands (the Picacho State Recreational Area) are located about six miles northeast of the Project mine and process area, along the Colorado River and on the opposite side of the Chocolate Mountains from the Project. As such, the proposed Project mine and process facility would have no impact on the "back county" or "off-road" experience available within the Picacho State Recreation Area.

Revisions to the Final EIS/EIR: None.

Response to Comment I005:016: See Response to Comment E001:011.

Response to Comment I005:017: See Response to Comment I015:016.

Response to Comment I005:018: (See Also Responses to Comments F001:003 and I013:415.) Comment noted. The selection of "key observation points" (KOPs) from which the visual analysis was presented in the Draft EIS/EIR conforms to the visual analysis methodology prescribed by the BLM (BLM Visual Manual Section 8400). No attempt was made to under-represent the visual effects of the Project. The Draft EIS/EIR concludes that even after implementation of mitigation measures, the Project would result in a visual contrast with the surrounding area and would change the existing character of the landscape to a degree which would not conform with the BLM Class II visual objectives which have been applied to this Class L-designated area. This lack of conformance is a significant, unmitigatable impact.

Revisions to the Final EIS/EIR: None.

Response to Comment I005:019: See Response to Comment I012:043.

Response to Comment I005:020: See Response to Comment I013:002.

PFUSA California

I006

February 24, 1998

BLM El Centro Resource Area
Attn: Doug Romoli
1661 South 4th Street
El Centro, CA 92243

RE: Imperial Project Draft EIS/EIR

Dear Mr. Romoli:

These comments reflect the position of the California membership of ***People for the USA***, formerly People for the West. PFUSA is a national grassroots organizing program designed to build support for responsible use of public and private lands. Membership comes from all walks of life, but united in a common goal - preserving private property rights and multiple use of public lands. In that this project affects both the property rights of the applicant and multiple use of public lands, our members offer the following suggestions for incorporation into the Final EIS/EIR.

In general, we support the "proposed action" as described in the draft documents. Several sections regarding resource uses and values deserve clarification, but do not detract from or change the proposed action.

We appreciate this opportunity to comment on the proposed Imperial Project and look forward to the BLM's response. Please feel free to contact me or our California Field Director Pat Davison (530) 582-4051.

Sincerely,

Carol Knoy
PFUSA California State President
1055 Arno Road
Dinuba, CA 93618
(209) 591-2459

RECREATION

001 It appears that the statement regarding recreation in the area (Affected Environment, page 3-105, "it ((Indian Pass recreation corridor)) is probably the most heavily used dispersed recreation area...") is misleading. One could make the statement that dispersed recreation use along the Colorado River could "probably" be " the most heavily used" when one travels east from the Glamis Dunes. To include dispersed use west of the Colorado River (the one to two mile wide corridor) in with the various Colorado River-dependent activities gives a skewed picture of recreational use. It is like mixing apples with oranges (heavy use v. light use).

To compare the Indian Pass recreation corridor with other areas (even nationally ??), as was done in the draft with the word "most," requires some quantitative basis. Recreation use can be quantified with RVDs, or Visitor Hours. Since BLM doesn't have the quantitative data, a comparison should not be made. We would support some legitimate effort by BLM to quantify different types of recreational use - whether it be wilderness visits, rock collecting, four wheeling, or other activities. Then the real data could be useful for discussion purposes about a whole variety of activities. Data collection should ***in no way*** suspend, delay, or otherwise hold up this project.

002 The Cumulative Effects section on Recreation (page 5-9) contains statements that are either out of place or deserve explanation. Why are supposed negative impacts from recreation use even mentioned in a document outlining alternatives and impacts for a mining project??? And even if one were to argue that such statements were appropriate in this draft, then blanket statements about potential adverse impacts must be moderated with corresponding statements explaining the mandate of multiple use management along with the agency's duty to respond in some way to public demand for recreational opprtunities. It is tenuous at best to try and compare expected cumulative impacts from mining **in addition to all the other uses occurring** when the BLM does not have the data to quantify those other uses (i.e. recreation). An analysis of cumulative effects depends on measured, quantifiable data, otherwise the analysis is speculative and should be described in a section titled "Speculative Effects."

WATER

003 Equally questionable is the section on "Waters of the United States" (Affected Environment, pages 3-17 to 18, map on page 3-20). Elaborate discussion on federal law, Army Corps of Engineers' responsibilities, and definitions is somewhat helpful but clearly raises the question of appropriateness. Why are we reading about this??? Where is the information to the reader that this

is an arid environment, with no perennial streams, creeks, rivulets, or other waterways existing??? Doesn't the fact the washes are only waterways for short periods of time, coupled with the infrequent occurrences (may not be yearly) disqualify the area? Is this what Congress intended with the passage of the Clean Water Act?? If this area comes under "waters of the US" then the entire Mojave, Coloradan, and Sonoran deserts should be included.

THE PHRASE "WATERS OF THE UNITED STATES" IS NOT APPROPRIATE IN THIS DRAFT AND SHOULD BE REMOVED. Not only does common sense dictate that, but a relatively recent court decision suggests that the scope of the ACOE has been beyond lawful authority. BLM should review US Court of Appeals/4th Circuit Court # 96-4498 (United States v. James Wilson) in which the point is made that the ACOE's ability to regulate certain isolated "waters" is unfounded.

WILDLIFE

004 The DEIS/EIR mitigation measure requiring chuckwallas to be moved from any threats (page 4-77) raises some good questions. Wouldn't chuckwallas move out of the way on their own?? Is there documentation showing that chuckwallas need this kind of help from man? What are the consequences of moving the chuckwallas?? Given the fact that the area survey revealed only 3 chuckwallas, and habitat is marginal (page 3-72), the need for this mitgation measure should be re-considered, if for no other reason than to save the chuckwalla from traumatization caused by man's "help."

005 In a related vein, the radio collaring and relocation of desert tortoises found in the project area may cause impacts not presented in the draft. The annual collection and examination of the collared tortoises has some potential to stress those tortoises and others nearby. While the overall goal of adding to the bank of scientific knowledge is admirable, is the potential stress worth the effort? If there is no stress associated with such actions (i.e. collaring and annual examinations), please note that with references. If, given the seemingly low population numbers ("between 33 and 57 animals," page 3-72), there are other studies underway in the general area that can give a better sampling return, then perhaps those other studies would be more useful to man and less disturbing to tortoises.

ADJACENT WILDERNESS

006 Although the text on page 4-106 notes, "major facilities within the Project Mine and process area would be visible from some elevated areas within both (wilderness areas)...." an added comment could be that the minesite would not be visually noticeable to wilderness visitors traversing the vast majority of those

wildernesses. That is because the mountainous terrain prevents clear views. Also, based upon photos displayed during the public hearing, it is evident that the project is mistakenly confused to be within the Indian Pass Wilderness Area. Please elaborate in the Final with more description of the immediate surroundings, in an effort to clear up that confusion.

007 When Congress passed the California Desert Protection Act, not only was text regarding the creation of buffer zones included in the bill, but numerous hours and pages of testimony had been submitted to Congress emphasizing the existing and potential human activity in the California Desert. The bill sponsor, Senator Dianne Feinstein, clearly stated her intent to allow mining to occur, and she modified the bill to accomodate some known mineral development. Congress was told that California's desert was rich in mineral resources. Congress knew that mining, and all its trappings, would be continuing in various parts of the California desert. It can be concluded that Congress expected mining projects, in close proximity to wilderness, to be proposed.

EDUCATIONAL OPPORTUNITIES

008 While the DEIS/EIR, page 4-107, concludes that the Imperial Project will create the permanent loss of some environmental education opportunities, there should be a corresponding paragraph highlighting the potential for new, positive educational activities to occur. A true environmental education program should include all aspects of the environment, human and non-human, animate and inanimate, tangible and intangible. The McCaw Middle School in Henderson built a realistic mine setting for school kids to visit and learn about mining. The cost of such an undertaking was tremendous, with most labor, equipment, and supplies donated. In Imperial County with this project, school kids can tour a real operating mine, not a constructed mock up. Additionally, the extensive cultural studies already done for this project have contributed to the cultural database. More cultural research and analysis can be done as the project proceeds. It just seems apparent that differing cultural values will always (and should always) be present when one talks about this area, due to the heritage and people involved.

PROPERTY RIGHTS

009 We could not find any mention in the draft documents about the status of mining claims as private property. Since there is a considerable body of knowledge and public opinion about this, it deserves mention. The potential that a mining project would be stopped (No Action alternative) for the benefit of society

brings up the potential that society (i.e. the federal government) would compensate the owners of the claims, doesn't it?? Please address this issue.

NATIVE AMERICAN CONCERNS

010 The Affected Environment section (3.6, pages 3-81 to 3-94) could include more detail, such as a map showing the area with the Quechan Indian Reservation and a few of the more notable historical/cultural landmarks and some mention in the text that the mine site is not within the Reservation. Also it should be noted that the lack of a permanent water source prevented the native peoples from settling in this area, and the Colorado River has been, and continues to be a major life sustaining force. Agriculture, gold exploration, and other types of development have occurred within the Reservation, which shows the Quechan Nation's understanding of the values associated with natural resource production.

It is hoped that some accomodation can be found to bring both the mining company and the Quechan Nation together. Clash of values is not new to public lands management. Strong values systems have prompted numerous debates about land management (i.e. hunting, motorcycle riding, military use, low level nuclear waste disposal, nude bathing, etc..) The gold in the ground will not disappear, just as the cultural heritage will not fade away. We expect the BLM to do its utmost to find a balance, to preserve and protect both sets of values.

RESPONSE TO COMMENT LETTER I006 RECEIVED FROM CAROL KNOY, PFUSA CALIFORNIA STATE PRESIDENT, DATED FEBRUARY 24, 1998

Response to Comment I006:001: See Response to General Comment 001.

Response to Comment I006:002: The referenced section is a paragraph describing the existing uses in the Project vicinity as part of the past, present and reasonably foreseeable activities within the area of cumulative analysis. It is necessary to describe all existing activities in the Project vicinity that cause or may cause adverse effects on the environment to properly undertake a cumulative impact analysis. Dispersed recreation activities such as off-road vehicle use are among those activities that have historically resulted in adverse impacts on cultural, biological, and hydrologic/soil resources and must be considered as a source of cumulative stress on these resources. Further, when cause-and-effect relationships cannot be quantified or are not practical, then qualitative analysis is an acceptable assessment methodology (Council on Environmental Quality. 1997. *Considering Cumulative Effects Under the National Environmental Policy Act*. page 41.). The analysis of the cumulative effects of the Project on recreation resources is provided on page 5-20 of the Draft EIS/EIR.

Revisions to the Final EIS/EIR: None.

Response to Comment I006:003: See Response to Comment E001:005.

Response to Comment I006:004: (See Also Response to Comment F002:007.) As stated on page 4-58 of the Draft EIS/EIR, marginal quality chuckwalla habitat exists over approximately one-half (½) of the Project mine and process area. A total of three chuckwallas were observed during surveys of the Project mine and process area, and an estimated 25 individual chuckwallas may inhabit the Project area. Chuckwallas are known to display high site fidelity and would not be expected to flee the area as a result of disturbance. As such, the chuckwallas present within the Project area could be killed or injured as a result of surface disturbance associated with mine construction and ore extraction and processing. While the effects of the Project on the chuckwalla and chuckwalla habitat would be below the level of significance, Mitigation Measure 4.1.5-52 was specifically provided to reduce the effects of the Project on chuckwalla. Moving chuckwalla from their territories, while a mortality risk, is considered a better option than the likely alternative, that they will be killed as a direct result of construction and operation activities. The mitigation measure will be modified to minimize the distance and frequency which chuckwalla are moved. Additional mitigation, in the form of compensation, to offset impacts to chuckwalla is not required by any regulation or policy and is not warranted. However, the offsite compensation lands required under Mitigation Measures 4.1.5-11, 4.1.5-13, 4.1.5-15, and 4.1.5-26 for microphyll woodland habitat which is disturbed and not reclaimed at a ratio of 3:1 may provide some compensation for

RESPONSE TO COMMENT LETTER I006 RECEIVED FROM CAROL KNOY, PFUSA CALIFORNIA STATE PRESIDENT, DATED FEBRUARY 24, 1998

chuckwalla since, as stated in Section 4.1.5.3.1. (page 4-52) of the Draft EIS/EIR, "Compensation lands that are in close proximity to the Project mine and process area, of equal or better habitat quality, and of similar vegetation community, elevation, hydrology, wind patterns, and substrates, would provide the greatest benefit."

Revisions to the Final EIS/EIR: The following mitigation measure will be modified as indicated:

- 4.1.5-52: Chuckwallas within the Project mine and process area faced with imminent mortality shall be moved a safe distance away from any threats during construction activity and ~~if found within the Project mine and process area during~~ mining operations ~~(approximately 100 meters outside the perimeter fence)~~.

Response to Comment I006:005: (The Following Response is Also Applicable to Comments J008:009, J009:004, J010:005, and J014:003.) (See Also Responses to Comments E002:010 and J014:004.) As stated in Section 4.1.5.4. (pages 4-71 through 4-76) of the Draft EIS/EIR, Mitigation Measures 4.1.5-30 through 4.1.5-47 were specifically "identified to mitigate the effects of the Proposed Action on the Desert tortoise. These, or similar, mitigation measures, have been required by the Biological Opinions issued by the U.S. Fish and Wildlife Service for nearby projects, including the American Girl Mine, the Mesquite Mine, and the Mesquite Regional Landfill. Each of these measures would be required by the BLM for the Proposed Action." These mitigation measures (or those modifications of these mitigation measures requested in the Biological Opinion issued on March 28, 2000 by the USFWS) are specifically designed to ensure that the Project does not jeopardize the continued existence of the desert tortoise. Only Mitigation Measure 4.1.5-40 (the measure which requires the relocation and radio-collar monitoring of tortoises) has any potential in and of itself to stress individual desert tortoises; all of the other mitigation measures are specifically designed to reduce the potential for stress. Mitigation Measure 4.1.5-38 explicitly discusses the procedures which must be followed to avoid the transfer of infectious diseases between animals and ensure "that the survival of the desert tortoise is likely." All translocated tortoises are to be marked for future identification using the acrylic paint/epoxy covering technique; notching is not to be authorized.

Prior to release, a total of up to forty (40) relocated and up to twenty (20) "resident" tortoises, as specified by the final Biological Opinion issued by the USFWS on March 28, 2000, will be equipped with radio transmitters and monitored for three years to "assess the effects of relocation on both the tortoises relocated from the Project mine and process area and those resident tortoises present within the relocation area." The Biological Opinion request is provided to ensure that there is no jeopardy to the continued existence of the desert tortoise. This mitigation measure does require the collaring

RESPONSE TO COMMENT LETTER I006 RECEIVED FROM CAROL KNOY, PFUSA CALIFORNIA STATE PRESIDENT, DATED FEBRUARY 24, 1998

of tortoises outside of the Project mine and process area, which would result in stress to these animals which otherwise would not need to be handled as a result of the Project. However, the potential value of the data to be collected regarding the effects of introducing additional individuals (relocated from the Project mine and process area) into the territory of these "resident" individuals is believed to outweigh the potential effects of the collaring. No other studies of this magnitude are known to be underway in the region.

Revisions to the Final EIS/EIR: None.

Response to Comment I006:006: Comment noted. The Draft EIS/EIR states that, "major facilities within the Project mine and process area would be visible at a distance from **some elevated areas within** both the Indian Pass Wilderness Area and the Picacho Peak Wilderness Area (page 4-106) [emphasis added]. This is a discussion extracted from the effects on existing land uses in the vicinity of the proposed Project. Vantage points within the wilderness areas were not selected as "key observation points" (KOPs) in the visual analysis; however, an adverse effect of the Project will be its visibility from some locations within the existing wilderness areas. The analysis determined that this adverse effect will not result in a significant impact. A visual analysis describing the impacts on the viewshed of the immediate surroundings is provided in the Visual Resource section of the Environmental Consequences chapter of the Draft EIS/EIR (pages 4-87 through 4-100).

Revisions to the Final EIS/EIR: None.

Response to Comment I006:007: Comment noted.

Revisions to the Final EIS/EIR: None.

Response to Comment I006:008: See Response to Comment I013:413.

Response to Comment I006:009: See Response to Comment I010:006.

Response to Comment I006:010: (See Also Response to Comment H001:004.) Section 4.1.13.2. (page 4-126) of the Draft EIS/EIR specifically states that "The Project mine and process area is ten (10) miles from the closest point of the Fort Yuma Indian Reservation, and the principal concentrations of housing on the reservation are over sixteen (16) miles away." Considering this distance, no additional information regarding the reservation is warranted. However, the Project area is situated within the Quechan traditional territory, and considerable discussion of this is provided in Section 3.6. (pages 3-84 and 3-85) of the Draft EIS/EIR and Appendix C to Appendix L of the

RESPONSE TO COMMENT LETTER I006 RECEIVED FROM CAROL KNOY, PFUSA CALIFORNIA STATE PRESIDENT, DATED FEBRUARY 24, 1998

Draft EIS/EIR ("Native American Consultation for the Glamis Imperial Project"). The lack of any permanent or intermittent water source within or near the Project area is well documented in Section 3.3.1. (page 3-10) of the Draft EIS/EIR, and prehistoric settlement patterns are described on page 82 and page 261 of Appendix L to the Draft EIS/EIR.

Revisions to the Final EIS/EIR: None.

I007

MOUNTAIN DEFENSE LEAGUE

P.O. Box 19852, San Diego, California 92159-0852
(619) 298-3738

February 25, 1998

Bureau of Land Management
1661 South 4th Street
El Centro, California 92243

ATTENTION: Douglas Romali

SUBJECT: Glamis Imperial Mine
Revised Draft EIR/EIS

001 In Supplement of the Mountain Defense League's January 21, 1997 comments (copy attached), we submit the following list of observed onsite plant species not included in the Draft Document:

Pectis papposa
Boerhavia wrightii
Datura discolor
Bouteloua barbata
cf Muhlenbergia microsperma
Nama hispidum
Eriogonum trichopes var trichopes

Byron F. Lindsley, Jr.
Director, Mountain Defense League

(2)

MOUNTAIN DEFENSE LEAGUE

P.O. Box 19852, San Diego, California 92159-0852
(619) 298-3736

Bureau of Land Management
1661 South Fourth Street
El Centro, California 92243

ATTN: Keith Schone

January 21, 1997

002 The Mountain Defense League, a Citizen Lobby on behalf of wise land use planning, and resource protection, in the Pacific Southwest Region, and an organization with prior experience with this type of proposal (open pit cyanide leach goldmining project) finds the CHEMGOLD project profoundly inappropriate from both an environmental and public interest standpoint, and the EIS/EIR substantially deficient. Project impacts are horrendous and ridiculous. Such impacts are those on Biology/Botany; Geology; and Cultural Resources.

The Bureau of Land Management has an OVERRIDING obligation to reject the CHEMGOLD proposal ("No Action Alternative"). It (BLM) has a higher burden to the American public as legal stewards and protectors of their land, than any burden to process this mining claim. The Mountain Defense League believes as well, that nearly as appalling as the proposal itself, is BLM's failure to schedule and hold public hearings for the project.

The MDL finds that based upon Project Impacts; the failure to provide real or responsive mitigations, prior to, during, or post the project; the absence of public hearings and effective public input, this project must be rejected and the "No Nation Alternative" be adopted. If the Bureau nevertheless chooses to proceed in processing this project a full and proper plan/program of Public Review (including early on Scoping meetings to later more formal hearings) be developed and implemented, as soon as possible.

Byron F. Lindsley, Jr.
Director, Mountain Defense League

3

RESPONSE TO COMMENT LETTER I007 RECEIVED FROM BYRON F. LINDSLEY, JR., DIRECTOR, MOUNTAIN DEFENSE LEAGUE, DATED FEBRUARY 25, 1998

Response to Comment I007:001: See Response to Comment I005:012.

Response to Comment I007:002: See Responses to General Comments 001 and 002.

LASER, INC.

LEGAL AND SAFETY EMPLOYER RESEARCH

AN INDEPENDENT, INCORPORATED DIVISION OF THE WESTERN STATES PIPE TRADES

1490 Highway 99, Suite E, Gridley, CA 95948 (P) 916/846-6352 (F) 916/846-5274

I008

2-26-98

Dear BLM:

Here are Laser's Comments on the DEIR/DEIS For the proposed GLAMIS MINE. Plese send LASER the FEIR/FEIS

Yours,

Jim Wilson
by jpw

Review of the Imperial Project

Draft Environmental Impact Statement and Associated Appendices

Tom Myers, Ph.D.
Hydrologic Consultant

This review concerns the impacts of the proposed project on regional surface and groundwater resources and effects to related geologic and ecologic values. The review considers the Draft Environmental Impact Statement (hereinafter DEIS) and Appendix E (Hydrology Baseline Report for the Imperial Project, Imperial County, California, prepared by Westec, Inc.). Comments on other appendices were made as relevant to water resources or related features.

There are three primary areas of consideration. The first is the impact of the pits on regional groundwater resources. The second is the impact of the production well(s) on the regional groundwater resources. The third is the impact of diverting surface water channels (waters of the United States) around the pit and other facilities on downstream riparian and microphyll woodlands. This review also provides detailed comments about confusing and potentially incorrect statements.

Potential Impacts of the Open Pit on Groundwater Flow

001 The proposed project consists of three open pits, two of which will extend below the groundwater table. There is a committment in the DEIS to backfill two pits with overburden from other pits and to backfill the third to the groundwater level, if necessary, therefore Appendix E indicates there will be no pit lake formed[1]. However, if the mining company terminates mining before the proposed plan of operations, backfilling will not be completed. BLM should require adequate bonding to assure that the pits will backfilled as promised in the DEIS since all impact analysis assumes the pits will fill.

002 Backfilled pit lakes will contain rock that has been pulverized and crushed. The hydraulic properties of the backfill will be much different than those existing in the pit before mining. Conductivity will probably be many times higher than the surrounding rock. This will create preferential flow zones which will change flow patterns throughout the region. It will also induce infiltration to deeper levels. Currently, it is unlikely that much rainfall infiltrates deeply. But substantial rains on the backfilled pit will infiltrate rapidly, decreasing water availability for

[1]Because of the high evaporation rate and low expected inflow, there would probably not be a pit lake. However, an unfilled pit lake would be a sump to which groundwater would flow and evaporate thereby creating a permanent discharge point in the aquifer.

any vegetation that may try to grow (either planted or colonizers) on the backfilled pit. It will also intercept flow in washes that may flow across the backfill.

003 The wetting and drying of the backfilled material presents a problem for water quality. It is the persistent exposure to air and water that causes acid mine drainage and the mobilization of heavy metals. The presence of sulfate in the groundwater (Table 2 and 3, Appendix E-2) suggests suphitic rock exists in the area. PH may currently be normal because the rock has not been through drying and wetting cycles. Future AMD may leach into groundwater from flow through the backfilled pits. To plan for uncertainty, the BLM should propose treatment methods, in perpetuity, to prevent the degradation of groundwater quality. However, the BLM relies on analyses of a few rock samples in Appendix C-2 to conclude that AMD will not occur. The BLM should require observation wells downgradient from the pits that will allow a monitoring of water quality with time after mining ceases. If measurements indicate a problem, wells downgradient from the pit may be required to collect the flow for treatment. The FEIS must analyze these possibilities and provide for their mitigation. Even if the risks of groundwater degradation are low, the impacts would be high and the BLM is responsible to plan for these risks.

004 Calculations of inflow to the pit suggest low flow rates, but the data used to make the calculations are not well documented. Implications are that all flow will come from the bedrock aquifer. However, well MW#1 is upgradient from the pits and is an alluvial monitoring well (data reported on Table 4.2, Appendix E-1). Yet, Figure 4-4, a cross-section of the pit to the production well, shows MW#1 in conglomerate. Either Table 4.2 provides incorrect information, or Figure 4-4 is incorrect. If MW#1 has a water level in alluvium (as implied in Table 4.2), then inflow to the pits will be from alluvium which has a much higher conductivity than the bedrock. This suggests much more flow to the pits, and potential dewatering requirements.

However, it may be that high levels in MW#1 represent perched water because it is very unlikely that recharge to the regional groundwater occurs in the Chocolate Mountains (Loeltz et al, 1975). Perched water would exist due to infiltration of wash flow.

Production Well Pumpage

005 The mine proponent proposes to pump 725 gpm or 1170 af/y from a well (or several wells mentioned in the FEIS) several miles southwest of the mine site. The issues with this well include the impacts of the drawdown cone on surface ecological resources and neighboring wells. The primary factors to consider are the source of water for the well, the aquifer properties and their determination, and the analysis of the drawdown cone for the well.

006 Aquifers all have recharge and discharge zones. The DEIS and appendices discuss recharge to this aquifer in a very cursory manner and ignore discharge zones except for mention of several wells. It is important to consider that every aquifer that is in semiequilibrium

(recharge equals discharge) in its natural (predevelopment) state becomes out of equilibrium in its developed state. All pumpage reduces natural discharge at some point. The natural discharge zones for the aquifer under consideration herein (the Amos/Ogilby basin) is probably in wetlands near the Salton Sea[2]. The final EIS should determine and discuss the natural discharge.

007 Presumably to suggest that the total pumpage is minuscule, Appendix E-1 (page 8) states the "usable and recoverable water" in the aquifer is 126,000,000 acre-feet. This seems to be an incredibly large number to present without discussion. The area of the Amos/Ogilby basin is 440 miles[2] or 281,600 acres. If we assume the porosity is 0.2[3], then the average thickness of water bearing formation is 2237 feet. At several points Appendix E-1 notes the depth to water is several hundred feet. At other points, the aquifer thickness on the boundaries of the basin is only tens of feet[4], therefore the thickness in the middle must be much higher than the average, presumably more than 3000 feet. With the depth to water, Appendix E-1 suggests that water deeper than 3000 feet is "usable and recoverable". At least the DEIS (page 3-22) acknowledges the depth. This is ludicrous and the whole paragraph (2nd full paragraph, page 8, Appendix E-1) should be removed or changed to discuss that which is readily available at recoverable depths. It may be that the amount removed over the project life, 24,000 af (DEIS, page 4-21), represents a significant percentage of the recoverable storage in the aquifer. It certainly does in the immediate vicinity of the mine proposal.

008 Appendix E-1 discusses groundwater flow direction in the unconfined alluvial aquifer near the mine site as being southwest at a gradient of 0.02. Figure 4-4 (Appendix E-1) suggests there is no water in the alluvium at the mine site. However, a gradient with water connected between aquifer types suggest that flow does occur with origins in the mountains. The DEIS estimates a recharge area upstream from the production well equal to 30,000 acres with one to ten percent recharge of 9,000 af/y of precipitation occurring. (In Nevada, where I more frequently work, recharge to the regional aquifers in zones of precipitation less than 8 inches is considered to be zero.) This is 90 to 900 af/y of recharge above the well. (If this amount of recharge occurred throughout the basin, the reported recharge would be much higher than 30,000 af/y, see below.) The reference, (Gsi/Water, 1993) chronologically preceeds the other studies in this project, yet is not referenced in the appendix nor is a copy appended to the report. The BLM

---

[2]Figure 4.1 (Appendix E-1) shows a gradient to the northwest toward the Salton Sea. However, Loeltz et al (1975) indicate that observed spring discharge near the Salton Sea commenced with the construction of the unlined canals.

[3]This means that a cubic foot of aquifer holds 0.2 cubic feet of water.

[4]If bedrock is considered to contain some of the 126,000,000 af, then the average thickness is much largers because the porosity would be close to 0.02 to 0.002.

has a responsibility under CEQ to provide generally unavailable references[5]. The BLM should explain why it accepts recharge estimates from this report rather than those from the US Geological Survey (Loeltz et al, 1975). "Only on the higher alluvial slopes of the mountains bordering the southwest side of Imperial Valley is the precipitation sufficient to provide recharge by direct infiltration" (Loeltz et al, 1975, page 21-23). This means that recharge does not occur in the Chocolate Mountains.

A more likely explanation for the apparent gradient and recharge is that perched water occurs due to localized recharge that does not reach the regional aquifers. That the well levels above the mine exceed those below the mine may be due more to local geology than regional flow or recharge. However, perched water is responsible for maintaining small seeps and intermittent flow in the washes which is essential for the wildlife of the area. If the pumpage, through partial connections, lowers the level of perched water, the impacts on wildlife will be devastating.

009 The recharge to the basin is quoted as being 100,000 acre-feet/year in Appendix E-1 without any significant discussion of where the recharge occurs. The original source[6] suggests that the 100,000 af/y comes from the All-American Canal and 20,000 af/y comes from the Colorado River, then concludes that the total recharge is 100,000 af/y. It is hard to determine why they do not just sum the amounts. Rising water tables caused by All-American Canal infiltration probably diverted much of the natural recharge from the Colorado River to the Amos/Ogilby basin. However, these rising water tables also suggest that a groundwater divide exists with substantial recharge flowing to Mexico. In a letter written in response to the first Imperial DEIS, Metropolitan Water District claimed that most water from the All-American Canal is not available in this basin[7]. Quoting this letter:

> ...All American Canal seepage from Imperial Dam to Pilot Knob returns to the Colorado River; and

---

[5]CEQ, Sec. 1502.21 "Incorporation by reference. Agencies shall incorporate material into an environmental impact statement by reference when the effect will be to cut down on bulk without impeding agency and public review of the action. The incorporated material shall be cited in the statement and its content briefly described. No material may be incorporated by reference unless it is reasonably available for inspection by potentially interested persons within the time allowed for comment. Material based on proprietary data which is itself not available for review and comment shall not be incorporated by reference." (Emphasis added). This reference was not attached or available for inspection.

[6]Environmental Solutions, Inc., 1993. Hydrogeologic Assessment Report: Mesquite Regional Landfill.

[7]Letter from Laura J. Simonek, Principal Environmental Specialist for the Metropolitan Water District of Southern California to Mr. Keith Shone, Bureau of Land Management, El Centro, dated December 23, 1996.

3. All American Canal seepage froom Pilot Knob to Drop 4 is estimated to be 91,600 acre-feet per year, **90 percent** of which flows beneath the international boundary into Mexico.

Based on the above documented information, annual recharge into the Amos-Ogilby-East Mesa Basin consists of approximately 20,000 acre-feet per year from the colroado River and 9,160 acre-feet from the All American Canal for a total of approximately **29,000 acre-feet. Please revise the analysis of Hydrologic Resources to incorporate this information.** (Emphases added)

010 Apparently the BLM did not revise Appendix E-1, but the DEIS does refer to 30,000 af/y as the appropriate value (pages 3-22 and 4-19)[8]. It is confusing and unprofessional to include an appendix that was not updated to reflect what the DEIS states. Appendices are usually the technical foundation on which the DEIS rests; making changes between the two, and presenting both to the public is confusing. Having incorrect information in the appendix is also contrary to CEQ regulations. In Section 1502.18 concerning appendices to an EIS:

> If an agency prepares an appendix to an environmental impact statement the appendix shall:
>
> (a) Consist of material prepared in connection with an environmental impact statement (as distinct from material which is not so prepared and which is incorporated by reference (Sec. 1502.21)).
>
> (b) Normally consist of material which substantiates any analysis fundamental to the impact statement.
>
> (c) Normally be analytic and relevant to the decision to be made.

If the appendix is wrong, it clearly does not substantiate "any analysis fundamental to the impact statement." Also, it cannot "be analytic and relevant to the decision to be made." The DEIS and appendices should be rewritten to correct the errors.

Even the estimate of 30,000 af/y is suspect. The BLM ignored the conclusion of Loeltz et al (1975). On page 20, Loeltz et al write:

> The leakage caused ground-water ridges to form beneath the canals almost immediately, and in time, the tops of the ridges intercepted the canals. The leakage also spread

---

[8]Apparently, the BLM chose to update the number in the DEIS based on the letter above and several personal communications with Bureau of Reclamation staff, page 3-22.

horizontally, thereby causing water levels over large areas to rise many tens of feet. Eventually much of the recharge due to the leakage, especially from the All-American Canal, caused additional discharge to drains and areas of natural discharge, rather than continuing to add to the quantity of ground water stored in the system.

Thus, the current losses from the All American Canal return to the river or discharge in wetland areas formed near the canal. The recharge will probably do very little to recharge pumpage from this project. The actual recharge is probably much less than 30,000 af/y.

011 *Production Well*: Appendix E-1 evaluates the effect of pumping the production well with a very cursory discussion (Section 6.2, Appendix E-1) and the DEIS references this appendix. The document does not indicate whether any computerized groundwater model code was utilized; based on the discussion and figures, I assume one was not used. I do not know which method was used, but Figure 6-1 suggests it was a cursory analytic technique ignoring regional flow. I conclude this because the drawdown cones are presented as perfect semicircles. In the regional environment with a gradient to the northwest, a drawdown cone would be elliptical. Analytic techniques also could not accomodate the flow barriers to the northeast, east and southeast. These geologic structures would further alter the shape of the cone, probably increasing the drawdown to the west. The DEIS suggests the calculations are conservative (FEIS, page 4-19) because they "(2) ...do not account for aquifer recharge...and (3) the aquifer may be much thicker than assumed" (Appendix E-1, page 22). Unfortunately, analytic methods often assume an aquifer of infinite extent for which supply does not limit the flow. The aquifer may be thicker, but semiconfining layers of fine grained sediments that limit vertical conductivity render this possibility moot.

Because the basin is hydraulically connected to the Colorado River, Appendix E-1 should assess whether pumpage increases flow from the river to the basin. The Colorado River is totally overappropriated which has caused massive damage to ecologic resources along the river and downstream in Mexico. Any pumpage which further decreases the flow will directly cause additional damage to these resources. Metropolitan Water District even suggests that a diversion application from the Colorado River will be needed[9].

The DEIS states that the All American Canal will be lined in the future (Section 5.2.3.1). Is it proper to assume the recharge this canal will be available through the life of this project?

Finally, all recharge discussed occurs, if at all, miles from the well. This production well will essentially be mining the local groundwater since almost no recharge occurs in the mountains to the east and southeast. I suggest that Appendix E-1 be honest and show where the recharge occurs and discuss how long, if ever, it takes for flow from the recharge zones to reach

[9]See the letter in note 6.

the wells. A question to consider is whether the production well is upgradient from the primary regional flow.

All of these issues regarding recharge render statements in the DEIS (pag 4-21) about the insignificance of impacts incorrect. Because it is unlikely that 30,000 af/y is the actual recharge, stating that the production pumping represents four percent of the recharge is incorrect. It is also disingenuous when the distance of the recharge zones from the well is considered.

In order for the public to have any confidence in the analysis of the production well, the authors must describe their calculation methodology, at least with a reference and a listing of parameter values and assumptions in the method. Because of all the uncertainties in the analysis outlined above, a groundwater model should be used to assess how much water comes from the All American Canal and the Colorado River, how long before this recharge reaches the well and the actual drawdown and time for recovery in areas near the mountain which may have small seeps.

Surface Water Flows/Waters of the US

012 There are no surface water sources on the site or in the immediate vicinity except for some ephemeral washes (which were flowing during my site visit February 5 and 6, 1998). Diversions of water courses cause the primary impacts.

I obtained copies of the computer output for the calculations in Table 3.2. The numbers appear to be okay, however it is difficult to determine where the 100-year rainfall depths were obtained. I recommend including an analysis of rainfall at El Centro,Yuma, and any other location with sufficient record to estimate the 100-year depth. Then, the same computer analysis should be rerun with the new depth.

Also, calculation of stormflows for 100% containment froom a one-hour PMP event may have used inaccurate rainfall values (DEIS, page 4-10). At least, the DEIS does not adequately reference the source of the values. The DEIS states that the PMP was ... 4.65" by averaging the PMP values for Yuma, Arizona and El Centro, California". These areas are in the middle of broad valleys with no orographic influence at all. The minesite is next to a mountain range with up to 1500' of relief. BLM should expect major storms to be larger at the site than at either of these cities. Also, Needles, CA received 5.12 inches in one day from a tropical storm in 1939 ((Metzger and Loeltz, 1973). The assumption of 5 inches in the PMP barely exceeds the 100-year storm value used for the diversion channels. BLM should reconsider the precipitation values used for these storms.

013 All diversion channels around the pits will interrupt the flow of sediment and water to downstream riparian ecosystems. The associated water and nutrient inputs to these areas is essential for their long-term maintenance. Erosion from the mine project facilities will cause

sedimentation to inundate the vegetation (DEISI, page 4-10). This erosion could cause various chemicals stored on site to reach and damage the ecosystems. The BLM should require mitigation/bonding to remedy any problems caused to these rare ecosystems.

Specific Comments on Appendix E-1

014 1. The description of a "series of subparallel ephemeral washes" (page 6) is an unnecessary use of jargon. It is also repeated in the DEIS. What is meant by "subparallel"?

015 2. The report of the Gold Rock Ranch Ranch well pumping at a continuous rate of 150 gpm for two years is useless without information about the drawdown (page 8).

016 3. The second full paragraph refers to "the storage capacity of usable and recoverable water". I am unfamiliar with the term storage capacity. The authors apparently confused terms. Storage coefficient refers to the amount of water recovered when head lowers a unit amount. Specific capacity is the volume of water pumped for a unit drop in head at a well. At this location, "storage capacity" should be replaced by "volume".

017 4. The second sentance, first full paragraph of page 9, states that a well yielded 300 gpm with 73 feet of drawdown is not very usefull without stating how long the pumping occurred. It is impossible to judge much about the aquifer without knowing whether the well level had stabilized or was still dropping.

Summary and Recommendations

018 This DEIS and associated appendices inadequately analyze the impacts of the this project, primarily the production well on the groundwater resources of the area. The recharge to the basin is incorrectly stated. There is no groundwater model that could be used to assess the impacts. For this reason, the DEIS should be rewritten to include the results of a groundwater model of the basin to be affected by the production well.

References

Loeltz, O.J., B. Irelan, J.H. Robison and F.H. Olmstead, 1975. Geohydrologic reconnaissance of the Imperial Valley, California. US Geological Survey Professional Paper 486-K.

Metzer, D.G. and O.J. Loeltz, 1973. Geohydrology of the Needles area, Arizona, California, and Nevada. US Geological Survey Professional Paper 486-J.

RESPONSE TO COMMENT LETTER I008 RECEIVED FROM JIM WILSON, LASER, INC., DATED FEBRUARY 26, 1998

Response to Comment I008:001: See Responses to Comments I002:010 and I013:076.

Response to Comment I008:002: See Response to Comment I004:003.

Response to Comment I008:003: See Response to Comment I004:004.

Response to Comment I008:004: See Response to Comment I004:003.

Response to Comment I008:005: See Response to Comment I004:006.

Response to Comment I008:006: See Response to Comment I004:007.

Response to Comment I008:007: See Response to Comment I004:008.

Response to Comment I008:008: See Response to Comment I004:009.

Response to Comment I008:009: See Response to Comment I004:010.

Response to Comment I008:010: See Response to Comment I004:010.

Response to Comment I008:011: (See Also Response to Comment I004:011.) Section 5.2.3.1. (page 5-7) of the Draft EIS/EIR actually states that "plans for construction of this canal lining project have been suspended and there is no current schedule for implementation." Therefore, it would be improper to assume for this analysis that the recharge from the All American Canal would not be available through the life of the Project since the lining is not a "probable future project." Regardless of the timing of the lining, the amount of recharge to the basin believed to come from the canal which would be lost following the lining of the canal is estimated at ten percent of the 67,700 acre-feet per year of water to be conserved, or 6,770 acre-feet per year, or approximately 23 percent of the annual recharge of 30,000 acre-feet per year. Project ground water withdrawals of 1,170 acre-feet per year would represent approximately five percent of this lower figure, rather than the four percent of the higher figure. Both values are below the level of significance.

Revisions to the Final EIS/EIR: None.

Response to Comment I008:012: See Response to Comment E001:011.

RESPONSE TO COMMENT LETTER I008 RECEIVED FROM JIM WILSON, LASER, INC., DATED FEBRUARY 26, 1998

Response to Comment I008:013: (The Following Response is Also Applicable to Comments E001:007, I004:013, I013:111 and J007:005.) As stated in Section 3.5.5. (page 3-52) of the Draft EIS/EIR, there are "No perennial streams, riparian habitat, or wetland areas" on or adjacent to the Project area. Therefore, we must presume that the comment was discussing the microphyll woodland habitat, which does exist in and adjacent to the washes. As discussed extensively in Section 4.1.5.3.1. (pages 4-50 through 4-53), microphyll woodland habitat would be adversely affected by the Project, and Section 4.1.5.4. (pages 4-64 through 4-77) of the Draft EIS/EIR discuss measures to mitigate the effects to the microphyll woodland habitat, some of which are explicitly linked to monitoring the "health" of these wash-based systems (see Mitigation Measure 4.1.5-13). Those mitigation measures which are a part of reclamation would be subject to the reclamation bond (see Response to Comment I002:010); some would not, but would still be required to be implemented if required. No information is available regarding the specific effects of the construction of diversion of washes at the Mesquite Mine.

An assessment of the hydrogeomorphic functions of the "waters of the United States" in the watershed area that included the Project mine and process area also supports this analysis (LSA Associates, Inc. 1998; provided as Appendix P to the Final EIS/EIR). The boundaries of the "waters of the United States" within the Project mine and process area and the regional watershed closely align with the boundaries of the microphyll woodland habitat. The hydrogeomorphic functions evaluated included: surface and subsurface water storage and exchange and sediment mobilization, transport, and deposition; energy dissipation; landscape hydrologic connections; element and compound cycling; maintain characteristic plant community; maintain distribution and abundance of vertebrates; maintenance of habitat interspersion and connectivity; and maintain distribution and abundance of invertebrates.

The findings of this assessment generally conclude that following Project implementation the effects of the Project would be less than significant and that each of the respective hydrogeomorphic functions would be essentially equivalent to the existing condition.

Mitigation measures to reduce the possible biologic effects of this flow reduction, principally on microphyll woodland habitat and associated wildlife which utilize this habitat in these two washes, are proposed to reduce these biologic impacts to below the level of insignificance (Mitigation Measures 4.1.5-8 and 4.1.5-10 [providing water to enhance the establishment of ironwood and deer browse in each of these two washes]; to monitor the ephemeral washes to determine if Project construction and/or operations are having an indirect adverse effect on microphyll woodland habitat not directly impacted by Project disturbance (Mitigation Measure 4.1.5-13 [annual transect surveys in the spring of the ephemeral washes which flow into, out of, and through the Project mine and

RESPONSE TO COMMENT LETTER I008 RECEIVED FROM JIM WILSON, LASER, INC., DATED FEBRUARY 26, 1998

process area]; and requiring additional mitigation and/or purchase of additional compensation lands at a 3:1 ratio if the monitoring of the ephemeral washes determines that Project construction and/or operations are having an indirect adverse effect on microphyll woodland habitat not directly impacted by Project disturbance (Mitigation Measure 4.1.5-13).

Revisions to the Final EIS/EIR: The second paragraph on page 4-52 of Section 4.1.5.3.1. of the Draft EIS/EIR is revised to conform the changes made to reflect the revisions made in the Final EIS/EIR to Section 3.3.1.1. and Section 4.1.3.1.2.:

> "Diversions of the major surface drainages through constructed channels around the Project facilities would continue to provide the same ~~flow and quality of water into these major wash systems~~ hydrogeomorphic functions downgradient of the Project mine and process area with minimal effects as existed prior to mine construction. No substantial impact on wildlife habitat or species in the major wash system downgradient of the Project mine and process area is expected. Similarly, wildlife habitat in the Algodones Sand Dunes foothill "pockets" of microphyll vegetation downgradient of the mine would not be affected by the Project. Although some ~~minor,~~ ephemeral tributaries of the major channels would be "truncated" by the construction of the waste rock stock piles and the heap, thereby reducing the amount of water which may flow into these small tributary channels, the amount of reduction in water flow in the major channels would be ~~imperceptible~~ minimal and would not result in any significant effects."

Response to Comment I008:014: (See Also Response to Comment E001:004.) Comment noted. Websters New Collegiate Dictionary (150th Anniversary Edition, 1981) defines "subparallel" as "nearly parallel: not quite parallel."

Revisions to the Final EIS/EIR: The Final EIS/EIR is revised from the text in the first full paragraph on page 3-95 of the Draft EIS/EIR to replace the word subparallel with the phrase "more-or-less parallel".

Response to Comment I008:015: (The Following Response is Also Applicable to Comments I008:017 and I013:259.) The information regarding the pumping of the Gold Rock Ranch well was provided in Section 4.2 of Appendix E-1 of the Draft EIS/EIR in a description of available data on regional wells. This section specifically states that "Information on the historic use of ground water in the vicinity of the project area is limited."

RESPONSE TO COMMENT LETTER I008 RECEIVED FROM JIM WILSON, LASER, INC., DATED FEBRUARY 26, 1998

Table 4.1 of Appendix E-1 lists construction information and water level information for this Gold Rock Ranch well. The total depth of the well is 520 feet and the depth to static water is 397 feet. These numbers can be used to estimate the maximum drawdown that could have occurred during the two years of pumping by subtracting the depth of water from the depth of the well. Thus, the maximum drawdown that could have occurred was 123 feet. Since the pump was probably not set at the bottom of the well, the actual drawdown was probably much less. Therefore, from this information it can be determined that this well produced 150 gpm for two years and that this pumpage was produced with less than 123 feet of drawdown.

A large portion of the existing ground water wells in the western United States will not produce 150 gpm for even one hour (many wells can only produce flows of less than 10 gpm). That the Glamis well produced 300 gpm with a drawdown of 73 feet means that this well is better than most wells in the western United States, which will not produce this flow with that drawdown even during short-term pumping tests.

Revisions to the Final EIS/EIR: None.

Response to Comment I008:016: The term "volume" could be used as a synonym for the term "storage capacity" in the referenced sentence on page 8 of Appendix E-1 of the Draft EIS/EIR. However, the Draft EIS/EIR (Section 3.3.2.1., page 3-22) uses simpler terms, in stating that "Ground water stored in the Amos-Ogilby portion of this basin only is estimated at approximately 126,000,000 acre-feet."

Revisions to the Final EIS/EIR: None.

Response to Comment I008:017: See Response to Comment I008:015.

Response to Comment I008:018: See Response to Comment I004:011.

26 February, 1998

I009

Bureau of Land Management
1661 South 4'th Street
El Centro, CA 92243
Attention: Douglas Romoli
909.697.5237
Fax:909.697.5299

Reference: Draft EIS/EIR for the Imperial Project, Imperial California (SCH 95041025)

Dear Mr. Romoli,

001 As a recreator who has visited the project area in the past and who plans to do so in the future, if possible, I took the opportunity to review the dEIS/EIR referenced above. There appear to be a number of problems with the document. It repeatedly relies on conclusionary statements, is organized overall in such a way as to preclude the average readers understanding of the project, and suffers from numerous significant data and analysis omissions. Many sections of the document seem to be "padded" with reiterations of statutory requirements followed by conclusionary statements. Specifically, the following are some of my questions and comments about the adequacy of the draft document.

0021. Lack of Explanation and Supporting Documentation.

EIS/EIR's are informational documents. The draft uses terminology, sometimes repetitively, without explaining that terminology to the average readers. A number of times throughout the document reference is made to "unpatented mining claims." Similarly, reference is also repetitively made to Glamis' project goals including its goal "to fully exercise its rights under the General Mining Law of 1872". If general readers and agency decision makers are to weigh the degree to which project alternatives meet project goals, should not the relationship of these issues be explained? To what "rights of Glamis" (relevant to Mining Law of 1782) are the draft document preparers referring?

0032. Superficial Examination of Alternatives/Omission of Supporting Feasibility Studies

The abbreviated section of the draft document presenting the West Pit Alternative (beginning page 2-52), for example, indicates that all West Pit Alternative project *elements* (area of disturbance, mined material, waste material, all project features/structures) would be greatly down-scaled and project *impacts* of this alternative (including cultural, biological, ground-water, and visual quality resources) would be greatly reduced (from those of the proposed full-scale project). In support of a dismissal of this Project Alternative, the EIS/EIR preparer apparently relied on statements made by

the project spokesperson and did not performing independent analysis on project alternative feasibility. Conclusionary statements by Mr. Steven Baumann that this Project Alternative is not "economically viable" are relied upon in text. What financial viability analysis was performed to support this conclusion? Feasibility studies alluded to in the EIS/EIR should either be included in their entirety or they should not be relied upon. However, if agency decision makers are to dismiss the project alternatives — then feasibility studies will be necessary for a project of this magnitude. Though it is understood that EIS/EIR's preparers usually do not choose to address fiscal impacts — in this case such addressment is unavoidable. There are project alternatives which significantly lessen environmental impacts. In the text of the EIS/EIR it appears that the only rational for dismissing these alternatives is the lack of fiscal feasibility - which is not explained or demonstrated in text. For decision makers to dismiss environmentally superior project alternatives the dEIS/EIR will have to give a meaningful explanation of why these alternatives are being rejected by the project proponent. Simply presenting Mr. Baumann's personal preferences on the matter does not satisfy the CEQA requirement for justification of alternative rejection. If supporting project alternative feasibility studies cannot be found, then, at a minimum, references in text to Mr. Baumann's personal opinions should be omitted from the text.

004 3. Project Conformance with the Federal Land Policy and Management Act of 1976

The EIS/EIR states that (1.6.1) the California Desert Conservation Area Plan Guidelines for the project area require "development of locatable minerals on Class L lands ...limited to activities necessary to achieve extraction with minimum environmental impacts, using the best available mitigation technology and the most effective feasible reclamation practices." Agency decision makers have not been given *any* information about alternative mitigation measures. CEQA requires that the rejection of alternative mitigation measures be fully analyzed and explained. CEQA also mandates project modification where feasible, to avoid or substantially lessen significant environmental impacts that would otherwise occur. The dEIS/EIR completely fails to present any reasoning for this mitigation (or project alternative) infeasibleness. Please correct with reasoned analysis.

Both CEQA and the above referenced Plan Guidelines then, call for a reasoned and logical exploration of alternative mitigation technologies. Please correct this omission. The same comments hold true for the proposed reclamation plan. No alternative reclamation plans have been presented to the public. Please present the alternatives reclamation measures which were analyzed and rejected and explain why they were rejected.

005 4. Improper Examination of Alternatives/CEQA Violation

CEQA requires that an EIR **"must consider a reasonable range of alternatives to the project, or to the location of the project, which (1) offer substantial environmental advantages over the project proposal ...; and (2) may be *'feasibly accomplished in a successful manner' considering the economic, environmental, social and technological factors involved."*** (Citizens of Goleta Valley v. Board of Supervisors) (Goleta II). The dEIS/EIR utterly fails in this regard. Each and every

project alternative presented in text is summarily dismissed (by a project company spokesperson, no less) as "infeasible." Therefore, by definition, the range of alternatives chosen for document inclusion was improper because it did not meet requirement (2) above. Please completely re-perform the project alternative section of this document and correct this legal deficiency.

Please note the CEQA case: *Marin Municipal Water District* v. *KG Land Corporation California* which stated that "if the lead agency finds certain alternatives infeasible, its analysis must explain ***in meaningful detail the reasons and facts supporting that conclusion***." This dEIS/EIR is completely inadequate in this regard, in that it simply resorts to conclusionary statements of project alternative infeasibleness.

The superficial examination of the West Pit Alternative (one-and-a-half pages of text, one table, and one figure) versus several hundred pages of text regarding the Proposed Project) does not provide agency decision makers with the information mandated by CEQA in order that they may "make informed decisions" or determine that "no feasible alternative exists." Substantially greater detail about each of the project alternatives will be necessary for reasoned decision making. CEQA Section 15126 (d)3 states that "the EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis and comparison with the proposed project. A matrix displaying the major characteristics an significant environmental effects of each alternative may be used ***to summarize the analysis.***" Please note, the code does not say that the EIR may rely only on such a matrix ***in lieu of actual analysis!*** Nonetheless, this appears to have been the conclusionary methodology relied upon in text.

006 5. Light Impacts/Conclusionary Statements/Omissions in Analysis

Light impacts are all but ignored in the document. Please analyze the actual project impacts. Simply stating that (page 2-23) the project "lighting will be the minimum necessary" cannot be considered the conduct of analysis. It is neither quantitative or informative. Instead it is patronizing! What is the wattage of fixtures? number of fixtures? location of fixtures? cumulative light pollution produced on a daily, and seasonal basis? planned light shielding and orientation of fixtures? How will neighbors be impacted? Please include some actual analysis.

007 6. Health and Safety/Electromagnetic Fields

Nowhere in the document could I find any treatment of the subject of Electromagnetic Fields (EMF's) as it relates to human safety. Please analyze this issue which should appear in the document where issues of human health and safety are addressed. For example, if an approximately 16 mile transmission line, for example, is to be constructed, what are the EMF levels generated and what impacts are associated with such an EMF generation. Please address the subject as it pertains to each of the proposed electrical transmission lines. What is the latest epidemiological study findings with regard to this health issue?

008 7. Reliance on Conclusionary Statements/Detail Necessary for Reasoned Decision Making

The "No Action Alternative" (page 2-63) is also sufficiently abbreviated as to preclude "informed decision making" by interested parties. This vague and conclusionary section of the draft document should include some minimum amount of specificity on those very issues touched upon. Why are current uses of the project lands *inconsistent* with both the 1872 Mining Act and BLM Implementing Regulations? Controversial statements such as (2.2.4) "It would generally not be consistent with the BLM multiple use mission and policy of making public lands available for a variety of uses..." require *significant* explanations in text. The recreating public, religious and ethnic groups in the project area, national wildlife organization members, noted wildlife agency staff members, area scientists, and at least one U.S. Senator do not concur with such a conclusion! Please explain in full what reasoning resulted in such a conclusion!

009 8. Lack of Supporting Analysis/Need for Additional Land Use Study

A measured use-study will be required In order to support any conclusions about the use of the project site and this will require a measured use-study. Current land uses are widely varied (as the EIS/EIR preparer inadvertently points out by stating (2.2.4) "the area of the Proposed Action would remain as is, and present uses in the area, including off-highway vehicle use, camping, hunting, and rockhouding, ..."). In order to allow for a reasoned analysis of the issue, the project site's frequent and varied land uses must quantified and categorized by the EIS/EIR preparers. Without such analysis there is no way BLM decision makers could approve of the proposed action. These decision makers require factual information — not issue dismissal through conclusionary statements.

010 9. Lack of Supporting Information and Explanation

Again, the issue of "unpatented mining claims" is raised in the draft document in reference to the appropriate land use for the subject property — without benefit of an explanation of the EIS/EIR preparers reasoning. If, as is implied in text, the issue of the project lands status as "unappropriated lands" with "unpatented mining claims" makes land use conversion incumbent upon the BLM, would the EIS/EIR preparers be so good as to explain the issue more clearly?

011 10. Omission of Supporting Information on BLM Preferred Alternative

The draft EIS/EIR section regarding the BLM Preferred Alternative is confusing (page 2-63). The reader may mistakenly take the BLM Preferred Alternative to be the Environmentally Preferred Alternative. They are not the same thing! It may be that not one staff person or decision maker at the BLM (or other involved agency) approves of the proposed project. However, as the preparers of the EIS/EIR point out, the NEPA handbook directs the preparer of the EIS to choose as the BLM'S Preferred Alternative that which 'best fulfills the agency's statutory mission and responsibilities." The reader is informed that the BLM has therefore "chosen" the Proposed Action as its "Preferred Alternative." Arguably, not one staff member of the BLM agrees that the Proposed Action *best*

fulfills the agency's mission and responsibility. This section of the document is misleading and should be expanded and corrected!

On the other hand, if a decision maker at the BLM has taken responsibility for "approving" the Proposed Action (along with necessary mitigation measures) as the BLM's Preferred Alternative — the EIS/EIR preparers owe the public specificity about the identity of that decision maker. Who at the BLM has chosen this Proposed Action? If no individual at the BLM has made such a decision, the preparers owe the public a fair dealing discussion of the subject with a logically presented argument as to why the removal of present land uses is warranted in order to meet BLM missions and responsibilities. Economic, environmental, technical and other factors raised in this draft document as bearing on a decision as to the BLM's Preferred Alternative should be presented to the reader. This may be best done in tabular form. The preparers of the EIS/EIR should present to the reader the opinions of the appropriate personnel at the BLM on this matter (just as has been done with the opinions of Mr. Steven Baumann — referenced above).

012 11. Omission of Entire Subject of CEQA Defined Preferred Alternative

Handily, no mention is made in this Joint Environmental Document of the CEQA definitions of the term "preferred alternative." The joint Lead Agency for this proposal is, after all, the Imperial County Planning Department/Building Department (ICPBD) —which is responsible for the documents CEQA compliance. The ICPBD's Preferred Alternative, is the alternative which minimizes environmental impacts. That *cannot* be the Proposed Action — as I am sure the document preparers are aware. Please go back and rewrite this section of the document in a fair dealing way.

013 12. Impacts to County Maintained Roads

Impacts to County Maintained Roads, both paved (Ogilby) and gravel (Indian Pass) from heavy equipment operation and truck traffic are all but ignored in the dEIS/EIR (2-26 to 2-28). During mine operation and construction impacts should be significant. Please correct this omission.

014 13. Reclamation Efforts Inadequate or Inadequately Explained in Text of Document

The likely success level of reclamation plans (and the degree to which that success will be environmentally sufficient) are all but omitted in text. They should have been the subject of significant levels of independent analysis for this document. For example, the diversion channel replanting efforts (2-37) appear to be inadequate, and anyone reading the dEIS/EIR could not determine inadequacy of the anticipated replanting effort success rate. Was such a rate even calculated much less analyzed in the text of this environmental document? Why are existing (currently on site) vegetation and trees to be relied upon? Many will die - shouldn't their stocks be augmented significantly? Analysis of the acceptability of likely replanting success levels does appear to be in the document. Please explain and justify with facts and analysis why replanting efforts are deemed by the dEIS/EIR preparers to be sufficient.

015 14. Unacceptable Mitigation Measure to Prevent Contamination

Upon initial examination of the dEIS/EIR (2-41), contamination controls for a maximum probable event seem inadequate. Please explain with facts and analysis the standards applied to determine that such controls were deemed acceptable? What other standards for control are possible? Please explain what independent analysis was performed which deems the proposed contamination controls to sufficient.

016 15. Revegetation Mitigation Measures Not Assured

Revegetation test plots - in other words reclamation (mitigation) measures in the dEIS/EIR are theoretical as of the time of dEIS/EIR circulation and are unspecified (2-43). Such a "mitigation measure" is expressly prohibited by CEQA statute and case law. Both the Act and case law require specificity in mitigation measures and require that the public have an opportunity to review those mitigation measures as a part of the EIR. Were either the BLM or the Imperial County Planning Department to certify of the dEIS/EIR case law (including *Sundstrom v. County of Mendocino* and *Oro Fino Gold Mining Corporation v. County of El Dorado)* indicates they would be subject to litigation. The mitigation measures needed for an identified impact must be set forth in an accountable arena (before the public) and post-project approval is not the time to do it.

017 16. Reliance Upon Anecdotal Information Not Analyzed, Referenced or Verified

The dEIS/EIR keeps referring to (unspecified) standards applied by other mines (American Girl or Picacho Mine) (2-42 and 2-43 and many other locations in text). This is anecdotal — not informational because no explanation is given as to exactly how standards were chosen and applied at those mine sites. These references should be removed from the document wherever they are relied upon in lieu of reasoned analysis and researched project impact.

018 17. Conclusionary Statements Relied Upon for Mitigation Proposals

All Project Alternative discussions seems to have the same flaw - they are comprised of a series of conclusionary statements without benefit of a rationale for impact assessments (i.e. section 2.3.13 (2-66).

No attempt is made to meaningfully quantify the likely impacts of potential alternatives discussed throughout the section entitled "Alternative Mine Facility Locations Outside the Project Mine and Process Area" (2-68). Without even the most basic quantification attempt no "meaningful comparison" (with the Proposed Action) is possible. The most glaring example of the draft's failure in this area, is seen in the second paragraph on page 2-68. A series of conclusionary rationalizations for the Proposed Action are given to the reader without benefit of any reasoned analysis. i.e.: How much fugitive dust? Each Alternative as compared with the Proposed Action? Impact quantification and rank of impact (relative to the proposed action and other alternatives) in tabular format is

necessary for a project and document of this of this magnitude. Without such quantification and comparison of quantifications, meaningful comparison and understanding of alternatives is impossible.

(2-68) Again, conclusionary statements are made in the draft EIS/EIR which preclude a "meaningful" understanding of the project. The document concludes that the relocation of Indian Pass Road to a location east of parallel to the diverted West Pit Diversion Channel would result in an unsafe condition. What is the safe distance needed during blasting? Please explain what exact distance from blasting this proposed alignment of Indian Pass Road would result in.

019 18. Lack of Supporting Detail/Conclusionary Statements

The document states that "currently no freestanding surface waters" occur (3-10). what about non-drought years? Reference is made to the "regions low precipitation rate" — but what is that rate? Reference is made to the regions "high evaporation rate" — but what is that evaporation rate? We can expect, according to numerous scientists, more El Nine rain pattern years in the near future. Should not this (and many others) variable be taken into account in text in the form of reasoned analysis? Much more specificity is needed in order to avoid reliance on conclusionary statements about project site hydrogeologic matters.

(3-11) The source of the water for the seeps has not been identified in any hydrologic studies. Please cite those references checked by the dEIS/EIR preparers before making this statement.

020 19. Conclusionary Statements/Lack of Reasoned Analysis

Existing levels of hydrocarbons are presumed to be negligible (3-38) apparently it is believed that no major sources occur nearby. However, since air movement may not be adequate to remove them from the region, this assumption is unjustified. This same misguided assumption is made for other compounds. The EIS/EIR preparers must take measurements of the project are a to arrive at a baseline for document analysis. Air movement patterns should also be addressed by a qualified analyst to arrive at any conclusions about the project's likely impacts relative to these compounds.

021 20. Whole Addressment of Noise Impacts is Inadequate and Conclusionary

Existing noise conditions, like other impact subjects listed above, were not analyzed (3-99). Without a baseline understanding of current conditions - no reasoned analysis is possible. Instead the document, repeatedly relies upon assumptions and conclusions. This can very easily be remedied, if the project proponent is committed to meaningful analysis. Ambient noise levels can be measured with very widely available and affordable noise meters. It is astounding that a project of this magnitude is proposed to be undertaken without first performing a baseline noise analysis. The preparers of the dEIS/EIR must go back and perform this study to avoid inadequate addressment of the subject.

In addition to the complete failure to measure noise conditions at the project site the dEIS/EIR relies on assumptions of low noise levels likely to be generated by the proposed project despite the admission, in text, that there are "significant noise sources in the area" The document actually lists some of those noise sources. The whole Noise Impact section of the document is superficial and without reasoned analysis.

I could not find either a text or tabular addressment of the noise generation rates for the vehicles, equipment, and employees of the proposed project. This omission must be corrected with detailed information on the subject before any conclusions of "insignificance" can be made.

022 21. Land Use Plan Conformance/Conclusionary Statements/Lack of Reasoned Analysis

An analyst should have contacted the Bureau of Land Management about the NECDMP to determine what status (for the project area) is anticipated at this time (3-103). Though the draft plan is apparently not available at this time. Thought the draft plan is apparently not available an analyst for the BLM may have significantly reliable information to provide which would aid readers of the dEIS/EIR in understanding the BLM's land use preferences for this site. Additional research should have been performed and at the time of the Responses to Public Comments, this omission can be corrected.

023 22. Conclusionary Statements about Traffic Impacts/Lack of Reasoned Analysis

(3-110) What projects have been constructed during the last five years (since 1993) which would add to the average daily traffic counts of project-affected road segments? What are the traffic counts attributable to these projects? What projects have been proposed, approved or are scheduled to be built in the area? Please cite the planning officials who can assure the reader that no such projects bear on area traffic conditions. Absent this information, new traffic counts for the affected roadways are warranted. As presented in this dEIS/EIR, the Traffic section is yet another impact area without baseline data from which to analyze project impacts.

024 23. Conclusionary Statements about Subsidence/Lack of Reasoned Analysis

Analysis in the document on the subject of subsidence (4-3) appears to be completely conclusionary. Statements are made throughout this section which are not supported in any analysis for the reader to review. For example, "relatively course alluvial materials" as compared with what? Please explain what standards are applied here? This section of the document also states that project groundwater extraction is not large compared to the size of the aquifer. What would be considered "large" as compared with the aquifer? Please present the research conducted by the dEIS/EIR preparers relative 1) the size of the aquifer 2) the volume of the water to be extracted 3) comparative project water extractions which would be considered "large." When this information is given to the reader is may be possible to support the conclusions arrive at by the dEIS/EIR preparers. A baseline hydrology study was probably performed for the project. Even if it was, however, the EIS/EIR preparers are not excluded from the need to inform the public about the scope of the technical analysis performed --

or about the findings of that analysis. Who performed the analysis? It isn't even included by reference or by summary in this section of the document. The dEIS/EIR preparers seem to be daring document readers to wade through the technical report to answer their own questions. This joint environmental document, though intended to be an informational document largely for the general public, is anything but educational or informative. A complete rewrite of this document section with a substantial addressment of this subject should be provided to the reader.

025 24. Biological Analysis/Errors and Omissions

The dEIS/EIR fails to put the issue of the "Fairy Duster" (4-49) in perspective for the lay-people reading the document. What percentage total remaining population of the species is found within the project bounds? What percentage of that population size would be extirpated through project construction? How long will recolonization of this species take? What "success level" recolonization efforts will be considered acceptable to the Wildlife Agencies? Without these basic pieces of information no reviewer, public or agency, can begin to understand the project's significance determination relative to biology. No doubt all these and more details are presented in the Biological Technical Appendix to the document. They are not, however, adequately explained in the dEIS/EIR as needed to inform the public.

The various technical reports comprising the biological analysis for the project site are each now seriously out of date and should be re-performed in order that the EIS/EIR preparers might actually understand the likely biological impacts of project implementation. No logical or reasoned analysis can possibly be performed until those updates are performed. Since 1995 when the Desert Deer, and Bat Survey reports were performed biological circumstances have likely changed substantially. The involved wildlife agencies will likely consider these reports out of date. The 1995 Biological Survey Report is also laboring under outdated information. Since the time of its preparation, the State and Federal Lists of Sensitive and Endangered Species has changed substantially. No doubt the wildlife species addressed in this technical appendix will have also changed in recent years.

026 25. Omissions and Errors in the Cultural Resources Analysis

The cultural measures proposed for the Proposed Project (4-85) by no stretch of the imagination actually mitigate for the destruction of the Indian Pass-Running Man ATCC. Please present some sort of analysis explaining how the creation of a temporary curatorial post, video production and report preparation will mitigate for the irrevocable loss of Native American cultural and religious resources.

Simply proposing appeasement measures without any reasoned analysis as to how those mitigation measures will actually mitigate is not legally defensible in an EIR. Without an explanation as to how or to what degree a mitigation measure actually mitigates — no project decision maker can approve of a project. This section of the document must be rewritten in its entirety with an explanatory

discussion for each mitigation measure proposed. Perhaps most disturbing is the lack of explanation as to how the act of documentation can possibly mitigate for a permanent resource loss.

02726. Omissions and Errors in the Visible Reduction Analysis

The Visibility Reduction analysis section (4-89) of the dEIS/EIR is yet another section of the document which fails to provide supporting documentation (and therefore fails to provide reasoned analysis to support its conclusions). The documents attempted reliance on the "experience at other (unnamed) mines in the region indicate that there would some circumstances where plumes may be locally visible for short periods of time." No explanation is given as to why the EIS/EIR preparers deemed it acceptable not to perform quantitative assessment of possible visibility reductions from the proposed project. Please correct this omission. No explanation is given to formalize the anecdotal information about "other mines in the region." Please specify the source of this information. If no formalized (quantified assessment) was performed for any of those mine projects either, there is no reasonable (or legal) way this document can rely on such hearsay. The document states that "substantial visibility reduction" does not occur at these other (unnamed) mines. Please explain to the reader what threshold for "substantial visibility reduction" was used by the analysts preparing the dEIS/EIR. The document states that the proposed project contains actions which substantially reduce emissions of particulate matter. Please quantify the particulate matter likely to be expelled by the proposed project. Please quantify the particulate matter reduction expected to occur with *each* measure proposed (the dEIS/EIR indicates there are several reduction measures at work).At the end of this less than informative dEIS/EIR section the document preparers state that post-project visibility will not have been reduced to "below the threshold of significance." This is, as outlined above, a totally conclusionary statement. Please explain what "threshold" is being referred to.

The above referenced reliance on unnamed, un-analyzed, existing mines (with presumably un-quantified impacts) is an error committed numerous times throughout the document. Since the document was obviously prepared with WordPerfect — will make the correction of these errors throughout the document (wherever they occur) easy to correct. The document preparers can simply search the document using the key phrase "other mines in the area." No doubt, numerous occurrences will be found which should then be replaced with quantified analysis.

Without quantification of impacts there is no reason to believe than "dust suppressant" usage will successfully mitigate visibility loss impacts. The mitigation measures presented on page 4-99 (4.1.7.-2) also fails to quantify usage of dust suppressant chemicals. This omission should be corrected so decision makers can be fully informed.

02827. Errors and Omissions Relating to Visual Contrast

Has the dEIS/EIR underestimated the visual contrast impact (4-89) of the project? As per the document the 300 foot maximum height of the South Waste Rock stockpile and heap would be

approximately 100 to 150 feet higher than any immediately adjacent land form. What adjacent existing land forms are currently 150 to 200 feet in height? If these comparisons are to be made they should be explained somewhere in text. What is the definition being used by the dEIS/EIR preparers for "immediately adjacent." No such "prominent immediately adjacent" land forms are evident from either the document's text or its graphics. If indeed there are no other immediately adjacent and prominent land forms then a significant visual impact will occur with project construction.

Please address the negative visual quality impact that is associated with the construction of a sixteen mile over-built electrical transmission line. Graphical addressment is needed for both the lay person reading the document and for agency decision makers — in order to truly understand the project's visual quality impacts.

All mitigation measures presented (4-99) are characterized as "avoiding or reducing potentially significant impacts" — but to what level? Not one mitigation measure proposed is defined as fully or partly mitigating its associated impact. If each relevant impact is mitigated only partly, the dEIS/EIR preparers should state the degree to which mitigation will occur. Each mitigation measure proposed should be more fully described in order to inform decision makers of anticipated success. Without improving the dEIS/EIR in this way, it is not clear what the preparers of the document determined about the relative severity of each impact. As it reads current, the document appears to present mitigation measures which were "thrown in for good measure" — without any real belief in their potential success. Significant impacts relative to visual objectives were identified and are worthy of thoughtful analysis which is currently lacking in text.

029 28. Omissions in Noise Impact Analysis

Where are the regulatory agency noise restrictions listed in the noise impact analysis section of the dEIS/EIR (4-100)? These restrictions are mentioned (4.1.8.2) but not explained.

Again in the Noise Impact section of the document, no explanation is given to the reader about the source of data apparently derived from "other mines in the area." Noise generation levels are critical to an understanding of project impacts. Standardized sources exist for the noise generation rates of each of the project equipment sources. Those standardized sources should be quoted and summed in order to determine what noise impacts the project will have. If quantified noise information exists in the form of technical reports prepared by an acoustical engineer for the "other mines in the area" then the document preparers owe the reader some reference to those reports. If those reports exist please explain why the "other mines in the area" are appropriate for comparison.

Noise impact is one of the most critical issues associated with the proposed project. However, the dEIS/EIR utterly fails to quantify the project's cumulative noise impact on the project environs. The dEIS/EIR preparers go so far as to list certain other major noise sources in the area (i.e. existing military overflights) without attempting to measure their noise contributions. The document must provide the reader and agency decision makers with a baseline for the site's noise conditions. Existing noise levels must be measured in order to accomplish this. Please contact the source of the above

mentioned military overflights to document the type of overflights and each's noise generation rate and to document the number of overflights and their timing. Do the loudest overflights coincide with the planned loudest uses of the proposed mine facility? A more in depth analysis will be needed to complete a reasoned analysis of noise impacts.

030 29. Noise Impacts/Conclusionary Statements

A number of statements of the dEIS/EIR are conclusionary regarding the potential noise impacts of the proposed project (4-101). These statements include, but are not limited to:

"Based on the projected attenuation noise with distance, source pressure levels generated from all normal operating activities at the project mine and process should not be audible at this receptor." This is a conclusionary statement without the document's inclusion of noise attenuation calculations — which will, coincidentally, require an existing noise condition study.

"Substantially higher level noise values would be expected during the instant blasting occurs." Please answer the obvious questions raised by such a statement - quantify the noise level expected during the instant of blasting. Please quantify the frequency and duration of blasting.

"While some project generated noise levels may be discernable, the projected noise levels would not be intrusional and noise impacts would be below levels of significance." The document should list those project generated noise levels which it has determined to be discernable. Further, those noise levels should be quantified. Once quantified, the document should explain what thresholds for "intrusional" and "below (a) level of significance" were used to arrive at the above conclusion.

"Temporary or transient noise receptors, such as dispersed recreational uses in the area around the projected mine and process area, including portions of the Indian Pass Wilderness Area and Picacho Peak Wilderness Area, would be exposed to audible noises generated by project activities... other noises and noise levels would likely be judged intrusional." The document should list those project generated noise levels which it has determined to be audible. Further, those noise levels should be quantified. Once quantified, the document should explain what thresholds for "discernable" and "audible" were used to arrive at the above conclusion.

Despite the dEIS/EIR conclusion of project significance for the above described impact areas, the document must, nevertheless, avoid making conclusionary statements by correcting those omissions indicated above.

031 30. Improper Explanation and Presentation of Technical Studies

The dEIS/EIR presents the apparent conclusions of Technical Studies presented in the Appendices to the joint document. However, it does so in an uninformative way. The mere existence of such a

technical study does not relieve the EIS/EIR preparer from informing the public of the scope and methodology of a technical study, its likely accuracy in reasoned analysis, or the reliability of its engineers qualifications. Readers should not have to wade through thousands of pages to understand the analysis performed. Though such technical appendices are normally included by reference (in separate appendices) they are also included *in text* by quotation, summarization, and explanation by responsible EIS/EIR preparers. None of this occurs with the subject document to the degree which would allow members of the general public to have a fair understanding of the project. This is the purpose of CEQA, however. For example, an air quality study was obviously performed for the subject property. However, a reader cannot even tell if the dEIS/EIR preparers read it. It is not quoted. A reader cannot tell how that technical study was performed. Nor are a whole host of other air quality impact questions answered. The air quality section of the dEIS/EIR, for example, seems to provide the reader with numerous conclusionary statements. These statements may not have been conclusionary in the dEIS/EIR preparers mind. However, throughout the document inadequate explanation and background is given to the reader.

03231. Need for Monitoring

It is stated that heavy equipment project stipulations (4-102) will "avoid or reduce potentially significant impacts." Such stipulations cannot be considered anything akin to actual mitigation absent mitigation monitoring efforts. Please explain what assurances the public has in this regard. In any event, it is not clear if the dEIS/EIR preparers are referring to initial project setup efforts, or long term mine operations. This should be explained.

03332. Equipment Noise Muffling Measures/Inadequacy of Assurances/Document Omissions

Continued reference is made throughout the document to other mines known to the project proponent — some of which are apparently owned by the proponent. If this is the case, the proponent can be expected to bring heavy equipment from other operations when their workload recedes or even terminates. These pieces of equipment, then, would be aged and inferior by definition. State-of-the-art muffling devices found on the newest heavy equipment pieces offer optimal noise muffling. The analysts should research this issue. What equipment will be newly acquired and therefore offer acceptable noise muffling devices? How many equipment pieces will not? What will their noise generation rates be? Is the project proponent offering to buy all new equipment which offers the best muffling devices? Please contact a dealer in the heavy equipment category appropriate and obtain information about retrofitting heavy equipment and what noise muffling success can be expected with such an action. More than likely the project proponent will find such a thing "infeasible." If this is the case, please present the feasibility study needed to arrive at such a conclusion. The term "muffling device" appears throughout the above referenced section of the dEIS/EIR without explanation. Please explain what muffling devices and their muffling ratings the document preparers were referring?

034 33. Holiday Blasting/Recreational Impacts/Illogical and Unacceptable Assurances

The permissively (poorly) worded mitigation measured presented for impact (4.1.8-3) should be fully explained (it offers the project proponent unjustified exclusions for compliance) or strengthened or even removed from the document. The dEIS/EIR preparers promise that the mine will "not blast on major holidays... unless required for safety reasons or (when) necessary to maintain production due to the mechanical breakdown of production equipment or other unforseen circumstances. It seems that every possible excuse to blast on holidays has been given to the project proponent. An unforseen circumstance, after all, could amount to nothing more than the latest production goals. Also, it is hard to imagine why recreational resources should be significantly impacted on prime holidays in order to compensate mine operators for lost production due to mechanical breakdowns. Could the dEIS/EIR preparers be so good as to include a little analysis about the relationship of impact and mitigation for this matter? Why should area neighbors and area recreators make such production guarantees to the mine operators? Please explain what "safety circumstances" would possible compel blasting on holidays? The nexus between the obvious recreation impact and mitigation and assurance measures escapes this reader. "Unforseen circumstances" is a phrase which has not place in a defensible environmental document. Please omit this irresponsible wording and replace it with the characterized circumstances which would logically compel the project proponent to blast on holidays. Please provide analysis in support of limiting the hours of blasting on holidays in any unplanned event of any kind.

03534. Odor Impacts

Upon a brief review of the Air Quality technical Appendix to the dEIS/EIR and the joint environmental document itself, it was not immediately clear if the subject of Odor Impacts is addressed. Chemical storage, heavy equipment operation. and toxic material usage are given elements of the proposed project. Anyone of them could have the effect of causing negative impacts to the surrounding environs. Please indicate where this subject was addressed in text. If it was not addressed it should be fully analyzed *quantified* in terms of the sum of impacts of each of the above referenced odor sources (and all others found by the analysts).

036 35. Financial Impacts to Imperial Irrigation District/Impacts to Rate Payers

Significant water use is obviously a component of the proposed project. Obviously the local water district will be impact both during construction and during the life of the proposed mine's operation. Please explain the current and future capacity of the District's facilities. Please be specific and give references relative to those Water District authorities contacted.

When new industries, including heap leach mines move into previously depressed or recessionary community, and new infrastructure is produced (or old infrastructure newly stressed) significant impacts to rate payers (poorer citizens in the community) are usually impacted. This subject does not appear to have been addressed in the socioeconomic section of the document. Please correct this omission with specificity and reasoned analysis.

037 36. Impacts to Electrical Rate Payers

Construction of approximately six miles of new electrical transmission lines and the provision of significant power over those lines may prove to be taxing to the local electrical provider. Normally such a situation is financially painful for existing rate payers in the area. If the utility company in question has been contacted in order to research this issue - it is not apparent from reading the document. Please conduct the necessary analysis to determine local utility capacity, rate histories and intended rate increases in the near future. This analysis should also address the local population's capacity to meet such any rate increases — especially given the predominantly low income levels in the area. This is a socioeconomic, and a public health/safety issue which should be addressed in a reasoned (not a conclusionary) way in the document since rate increases may force some existing rate payers to lose their electrical services. Also, analysts should address the issue of who pays for the maintenance of the above referenced new infrastructure. What will happen to rate payers and to unneeded infrastructure when the proposed mine eventually closes down?

038 37. Traffic Analysis Omitted

Traffic impacts can be expected to result from construction of a project that will eventually serve: 225 workers (during construction); 120 full time workers; and operate 24 hours a day and 365 days a year. Roads will be relocated, new roads constructed, existing traffic patterns interrupted during construction, etc, etc, etc. Why was a formal traffic study not performed (or at least not presented to in the document)? The geometry and design of the proposed roadway improvements are issues that the involved agencies as well as area travelers certainly have a right to see. Please correct this omission.

039 38. Toxicity of Dust Suppression Chemicals.

The toxicity of dust suppression chemicals planned for use on site (page S-26) should be addressed.

Please quantify the anticipated chemical loading and explain what the environmental and wildlife impacts from that chemical use will be.

040 39. Phase I Site Analysis/Health and Safety

Certainly a Phase I Site Assessment has been performed for the subject property. Upon reviewing the document the results of that Site Assessment could not be located. The significant land disruption entailed by such a large scale project could have negative environmental impact if sensitive or toxic features on site are improperly disturbed.

041 40. Noise Impacts/Conclusionary Statements

The document states (4-103) that the proposed action would result in unavoidable increases in ambient noise levels within a conservatively estimated five mile radius... but will be below the level of significance. Earlier in text, the admission is made that no baseline noise studies were conducted. Without such studies the EIS/EIR preparers are simply making conclusionary statements — they cannot know what the cumulative noise affects will be. A formal Acoustical Analysis is called for. What "conservative estimation" (as referred to in text) was conducted? Informal "guess-timation" doesn't count with regard to a joint environmental document. Please include the "conservative estimation" details it in text so that agency decision makers and the general public can follow same. What is the alluded to increase in ambient noise levels within the five mile radius? Was it analyzed or estimated in any way?

042 41. Land Use/Incomplete Analysis

The document's addressment of Land Use (4-103) is incomplete in that it completely ignores religious land uses. The termination of which will certainly be a significant impact! Please correct this omission and analyze the impact of this land use.

043 42. Land Use/Conclusionary Statements

The document concludes that (4-104) "the proposed action is comparable with this existing use, since the project would result in negligible increases in noise and traffic along Ogilby Road, and would result in negligible decreases in air quality." Please support this assertion with measured analysis. It was stated earlier in text that no baseline noise analysis was conducted for the property — so how can it be determined that noise increases will result in a negligible changes? Please be specific as to the anticipated noise increase rather than simply asserting "negligibleness."The same comments apply to the issue of average daily traffic increases and to air quality impacts.

044 43. Military Aircraft Hazard

The document states that (4-104) "project blasting during mining operations could be a significant potential hazard to low-flying military aircraft using the general area for training exercises." Please inform the reader as to what research was conducted to determine the scope of this hazard. Please given the results of that research. Please cite the names of the authorities contacted regarding this potential hazard. If that researched indicates that safety measures (mitigation) will be required to avoid hazards to military aircraft - the details of those mitigation measures should have been included in text as per CEQA code and case law.

045 44. Conclusionary Statements/Unavoidable Adverse Affects

Unavoidable adverse affects to existing land uses, public access, low-flying military aircraft, air and noise pollution and traffic impacts are admitted in text (4-109). In each case, either with or without proposed mitigation measures, the impacts are determined to be "negligible or insignificant." Not one of these impact areas benefits from an explanation of what threshold for impact is used by the analyst. Not one of the impacts mentioned benefits from an explanation as to how that determination of significance was reasoned.

046 45. Needed Traffic Study Not Performed

The document states two possible thresholds for traffic related project significance — however, there are countless other variables which could result in significance. A formal traffic study is warranted for a project of this magnitude (described above).

047 46. Conclusionary Statements Relied Upon In Lieu of Analysis

The document states that (4-113) "the Proposed Action also contains the realignment of intersection of Ogilby Road and Indian Pass Road to a right angle. Thus, there is no reason to believe that the construction of either a right- or left hand turn pocket on Ogilby Road is necessary. The effects of traffic associated with the Proposed Action would be below the level of significance." This is a conclusionary statement unsupported by facts in the record. What are site distances at the road segments in question (please explain the geometry of the proposed road realignment)? What are the average rates of speed used by motorists in the area? Even if ADT's are low (and the dEIS/EIR preparers don't know - because they haven't quantified ADT), then other safety factors may merit road improvements.

048 47. Landfill Capacity/Conclusionary Statement

The document states that local and regional landfills and hazardous waste treatment and disposal sites will not be negatively impacted by project construction or eventual demolition and facility removal (4-117). Without an estimate of volumes generated (construction era, operation era and demolition

era) such a conclusion is wishful thinking. What volumes are involved - both for regular landfill and hazardous materials? What facilities, local and regional are likely to be impacted? What is the capacity of each - both near term and at the time of facility demolition? Please be specific about research conducted in this subject area in order to avoid being assumptive.

049 48. Assumption of Mitigation Success/CEQA Violation

The document states that (4-118) [4.1.11.2-4] "Applicant shall work with the USMC to ensure that neither the microwave communication system nor the Project FM mine communication system interfere with military overflight communications." Such a "mitigation measure" is expressly prohibited by CEQA statute and case law. Both the Act and case law require specificity in mitigation measures and require that the public have an opportunity to review those mitigation measures as a part of the EIR. Were either the BLM or the Imperial County Planning Department to certify of the dEIS/EIR case law (including *Sundstrom v. County of Mendocino* and *Oro Fino Gold Mining Corporation v. County of El Dorado)* indicates they would be subject to litigation. Future "work with" an agency certainly does not guarantee mitigation success. The mitigation measures needed for an identified impact must be set forth in an accountable arena (before the public) and post-project approval is not the time to do it.

050 49. Environmental Justice For Minority Populations/Conclusionary Statements

The document states (4-126) "the environmental consequences of the Proposed Action will not result in any conditions... which could produce a substantially direct or indirect impact to human health or environmental effects to any population residing at the distances identified above from the Project area." This is a conclusionary statement not supported by facts in the record. Impact areas listed in this paragraph included air quality, noise exposure and transportation impacts — yet for none of these impact issues was a technical study performed to support the conclusions stated throughout this dEIS/EIR. Please describe what impact threshold the preparing analyst was using when they determined that the "distances identified above" precluded impact.

051 50. Visual Quality Analysis/Analysis Methodology Not Explained

Please explain the methodology used and the qualifications of the analysts involved in the preparation of the technical imaging conducted for the visual quality analysis for this project. It is not apparent from reading the graphical figures throughout the document, nor from reading the list of qualifications for each analyst (within the List of Preparers).

Please explain why the staff members (or subcontractors) performing this analysis were considered qualified. Please explain what site visits were made, length of visits, and data obtained during each visual quality analysis visit. What equipment was used to generate these technical graphics? What computer programs (and which versions), specialized computer hardware and special photographic equipment was used in the preparation of these graphics? These graphics were relied upon to arrive at the document's visual quality impact conclusions, therefore, the reader has a right to know exactly

how they were prepared. Please explain all technical methodology used. Without a detailed explanation of these variables it is impossible to know whether the graphics in text are at all reliable.

052 51. Appendix M/Context of Appendix M - Not Explained/Land Use Incompatibility

The "Visual Contrast Rating Sheets" presented in Appendix M do not appear to have addressed anywhere else in the text of the dEIS/EIR. Four rating sheets (double sided) appear that were obviously filled in (illegibly). These are apparently BLM forms. How are these forms used by the BLM? Where is the significance of their "incompatibility" determination explained in text? The forms appear to draw attention to the land use/visual quality "incompatibility" of the proposed project. Specifically, each form states "The proposed project does not retain the original character of the landscape and is therefore not consistent with the management objectives of a Class II area."

If these documents were deemed important enough to include in the dEIS/EIR, then they warrant an explanation as to who signed them and why they were prepared and how they were used in project planning.

Thank you for your consideration of the above comments and questions. As per NEPA, I request a copy of Responses to Comments, to review the Final EIS and to comment on how the Final document deals with the above mentioned problems.

Sincerely,

Lisa Seneca
RBRiggan and Associates
11228 Zapata Avenue
San Diego, CA 92126
619.233.5454

e mail:rbriggan@compuserve.com

RESPONSE TO COMMENT LETTER I009 RECEIVED FROM LISA SENECA, RBRIGGAN AND ASSOCIATES, DATED FEBRUARY 26, 1998

Response to Comment I009:001: (See Also Response to Comment I009:002.) Comment Noted.

Response to Comment I009:002: "Unpatented mining claims" is defined in Section 10 ("Glossary and List of Acronyms") of the Draft EIS/EIR, and means "A mining claim for which the United States government has not conveyed the fee simple interest in the surface and minerals into private ownership." References to Glamis' rights have been changed to "any rights Glamis may have." As set forth in Section 1.6.1, the Mining Law of 1872 allows miners to secure exclusive rights to mine public lands through the location of valid mining claims.

Revisions to the Final EIS/EIR: The Final EIS/EIR will amend all references to any "rights Glamis may have" or to the phrase "fully exercise its rights under the 1872 Mining Law" to the phrase, "any right Glamis may have.", as identified below.

The second bullet on page 1-16 of the Draft EIS/EIR has been amended as follows:

- fully exercise any rights it may have;

The first bullet on page 2-52 of the Draft EIS/EIR has been amended as follows:

- Section 1.7 describes the Glamis Imperial's purpose and objectives for the Proposed Action: to profitably recover as much of the precious metals discovered on those mining claims which it owns in the Project mine and process area as possible; and to fully exercise any rights it may have.

The last sentence on page 2-62, and extending onto page 2-63 of the Draft EIS/EIR has been amended as follows:

> The Complete Pit Backfill Alternative allows the full amount of discovered ore to be mined, which conforms to the Glamis project objective to fully exercise any rights it may have.

Response to Comment I009:003: The West Pit Alternative described in Section 2.2.1. of the Draft EIS/EIR (pages 2-52 through 2-57) was not dismissed as uneconomic, but was completely analyzed as an alternative to the Proposed Action in Section 4.2. of the Draft EIS/EIR (page 4-127 through 4-137). Glamis Imperial's assertion that this alternative was uneconomic was presented strictly as an unsupported statement, and not used in the analysis.

RESPONSE TO COMMENT LETTER I009 RECEIVED FROM LISA SENECA, RBRIGGAN AND ASSOCIATES, DATED FEBRUARY 26, 1998

Revisions to the Final EIS/EIR: None.

Response to Comment I009:004: Section 2.3 of the Draft EIS/EIR (pages 2-65 through 2-75) presents a detailed discussion of the alternatives which were eliminated from detailed consideration. Each potential alternative was evaluated for its ability to avoid or substantially lessen any one or more of the significant environmental effects of the Proposed Action, and its ability to feasibly attain most of the basic objectives of the project. The rationale for considering but not selecting for further analysis each suggested alternative was also provided.

Section 4.1. of the Draft EIS/EIR contains extensive discussions of the mitigation measures proposed to reduce the possible impacts of the Proposed Action. The proposed Reclamation Plan is a part of the Proposed Action, and the impacts of, and mitigation measures for, the Reclamation Plan are discussed as an integral part of the Proposed Action.

Revisions to the Final EIS/EIR: None.

Response to Comment I009:005: See Responses to Comments I009:003 and I009:004.

Response to Comment I009:006: The referenced section is only the description of the lighting which will be used by the Proposed Action. The analysis of the potential impacts of project lighting was presented in Section 4.1.7.2. (page 4-88) of the Draft EIS/EIR, and specific mitigation measures for night lighting are presented in Section 4.1.7.3. (pages 4-99 through 4-100) of the Draft EIS/EIR. The analysis of potential impacts of project lighting on wildlife was presented in Section 4.1.5.3.2. (pages 4-53 through 4-62) of the Draft EIS/EIR.

Revisions to the Final EIS/EIR: None.

Response to Comment I009:007: The Bonneville Power Administration recently completed a review of the literature for this topic in its publication *Electrical and Biological Effects of Transmission Lines: A Review* (Lee, Jack M., Principal Author. 1996. *Electrical and Biological Effects of Transmission Lines: A Review*. Bonneville Power Administration, Portland, Oregon. December 1996). This study investigated epidemiologic studies through 1996 and found that no causal link has been established between electromagnetic fields (EMF) and adverse human health effects. In relative terms, a 92 kV transmission line is a lower voltage transmission line, and the potential electromagnetic effect of a transmission line is commensurate with the voltage of the transmission line. For example, in 1993, the California State Department of Education established limit distances for locating schools near transmission line easements. In establishing these limits, the

RESPONSE TO COMMENT LETTER I009 RECEIVED FROM LISA SENECA, RBRIGGAN AND ASSOCIATES, DATED FEBRUARY 26, 1998

California Department of Education acknowledged that no scientific consensus exists supporting reports of health effects of EMF on people; however, it believed that school districts must take a conservative approach when reviewing sites near power transmission line easements. The established limits vary with the voltage of the transmission line: 100 feet for 50 kV - 133 kV lines; 150 feet for 220 kV - 230 kV lines; and 350 feet for 500 kV - 550 kV lines.

Based on available evidence, no significant human health or safety effect is expected to occur.

Revisions to the Final EIS/EIR: None.

Response to Comment I009:008: Since publication of the Draft EIS/EIR, the No Action Alternative has been selected as the BLM Preferred Alternative.

Revisions to the Final EIS/EIR: Section 2.2.5 of Volume I of the Final EIS/EIR has been revised to reflect the selection of the current BLM Preferred Alternative.

Response to Comment I009:009: The referenced section is only the description of the land uses presented in the Reclamation Plan. The land uses applicable to the Proposed Action are presented in Section 3.9 (pages 3-100 through 3-106) of the Draft EIS/EIR.

Revisions to the Final EIS/EIR: None.

Response to Comment I009:010: See Response to Comment I009:002.

Response to Comment I009:011: The BLM Preferred Alternative is a culmination of the analysis presented in the EIS/EIR in which environmental issues and concerns are addressed to identify and, where possible, quantify effects of the Proposed Action. The results of this analysis identify significant effects to visual and cultural resources. Based upon consultation with the Advisory Council on Historic Preservation Task Force report, upon the DOI Solicitor's Opinion of January 3, 2000, concerning the authority of the BLM to protect resources in the California Desert Conservation Area from undue impairment, and other factors, the Preferred Alternative has been revised. Detailed justification for the selection has been deferred to the Record of Decision.

Revisions to the Final EIS/EIR: Section 2.2.5 of Volume I of the Draft EIS/EIR has been changed to reflect the revised Preferred Alternative.

RESPONSE TO COMMENT LETTER I009 RECEIVED FROM LISA SENECA, RBRIGGAN AND ASSOCIATES, DATED FEBRUARY 26, 1998

Response to Comment I009:012: CEQA regulations state that if the No Project alternative (i.e., the No Action Alternative) is the Environmentally Superior Alternative, then the EIR must also identify an alternative that causes the least environmental damage from among the other alternatives (CEQA Guidelines Section 15126(d)(4)). Based on the analysis provided in this EIS/EIR, the Project alternative that would result in the fewest significant environmental impacts would be the No Action alternative and would, be considered the Environmentally Superior Alternative; however, CEQA requires that an Environmentally Superior Alternative also be selected from among the other action alternatives. The Environmentally Superior Alternative that would cause fewest effects to the environment, would best protect, preserve, and enhance historic cultural, and other natural resources, while meeting both the objectives of, and the purpose and need for, the Project, would be the Proposed Action. There is no requirement for a CEQA lead agency to identify a Preferred Alternative under CEQA regulations.

Revisions to the Final EIS/EIR: Section 2.2.5 of Volume I of the Draft EIS/EIR discussing the Preferred Alternative has been revised and a new Section 2.2.6 discussing the Environmentally Superior Alternative has been added to the Final EIS/EIR, as follows:

2.2.5 Preferred Alternative

Chapter V, Section B.2.b. of the BLM NEPA Handbook directs that "The manager responsible for preparing the EIS should select the BLM's preferred alternative. ... For externally initiated proposals, ... the BLM selects its preferred alternative unless another law prohibits such an expression. ... The selection of the preferred alternative should be based on the environmental analysis as well as consideration of other factors which influence the decision or are required under another statutory authority."

The BLM Preferred Alternative is the alternative that best fulfills the agency's statutory mission and responsibilities (see Section 1.6.1), giving consideration to economic, environmental, technical and other factors. The BLM Environmentally Preferred Alternative for a mine would ordinarily be the proposed Plan of Operations (POO). The plan of operations would include mitigation measures and plans for reclamation and closure. The Preferred Alternative would then be no different from the Environmentally Preferred Alternative.

Based upon findings in this EIS/EIR, and agency and public comments, as well as extensive consultation with the Advisory Coucil on Historic Preservation, the BLM has identified the No Action Alternative as the *Preferred Alternative*. However, there is no requirement for a

RESPONSE TO COMMENT LETTER I009 RECEIVED FROM LISA SENECA, RBRIGGAN AND ASSOCIATES, DATED FEBRUARY 26, 1998

CEQA lead agency to identify a preferred alternative in an EIR under CEQA regulations, and Imperial County will identify their preferred alternative as part of their decision making actions on the proposed Project.

2.2.6 Environmentally Superior Alternative

CEQA regulations state that if the No Project alternative (i.e., the No Action Alternative) is the Environmentally Superior Alternative, then the EIR must also identify an Environmentally Superior Alternative from among the other alternatives (CEQA Guidelines Section 15126(d)(4)). Based on the analysis provided in this EIS/EIR, the Project Alternative that would result in the fewest significant environmental impacts would be the No Action Alternative. However, as CEQA requires that an Environmentally Superior Alternative be selected from among the action alternatives, the Proposed Action, as amended by the measures identified to reduce the adverse effects of the Project provided in this Final EIS/EIR, has been identified by the County as the *Environmentally Superior Alternative*.

NEPA does not require the NEPA lead agency to select an Environmentally Superior Alternative, and the BLM has not identified an environmentally superior alternative from among the action alternatives.

Response to Comment I009:013: (The Following Response is Also Applicable to Comments I009:038, I009:046 and I013:107.) Section 4.1.11.1.2 of the Draft EIS/EIR notes that an average of only three and one-half heavy-weight vehicle (truck) round trips per day would travel on Ogilby Road and Indian Pass Road. The Draft EIS/EIR also states that truck traffic on Ogilby Road associated with the Project would not significantly increase degradation of the roadbed, nor result in a significant increase in maintenance costs for the road (as these are very small increases in the current level of use of Ogilby Road). However, the relative increase in volume of truck traffic on Indian Pass Road would be substantially higher than on Ogilby Road since there is little current truck traffic on Indian Pass Road. However, as stated on page 4-114 of the Draft EIS/EIR, "During the life of the project, Glamis Imperial would be responsible, under the direction of Imperial County, for the maintenance of Indian Pass Road from Ogilby Road to a point beyond the Project mine and process area. Any costs associated with possible increase [*sic*] in road repairs required as a result of increased Project-related traffic on County-maintained roads would be off-set by the additional property taxes and sales taxes provided to the County by the Project. Thus, the level of impacts to roads . . . would be below the level of significance."

RESPONSE TO COMMENT LETTER I009 RECEIVED FROM LISA SENECA, RBRIGGAN AND ASSOCIATES, DATED FEBRUARY 26, 1998

Detailed engineering of the roadway geometries is typically conducted after project approval has been granted; conceptual drawings are typically considered sufficient for impact analysis. The Draft EIS/EIR described the proposed road relocations in Section 2.1.9.6 and Section 4.1.11.1.2 of the Draft EIS/EIR; the Indian Pass Road realignment is conceptually shown on Figure 2.2; the realignment of the Indian Pass Road/Ogilby Road intersection is conceptually shown on Figure 2.8. No other new permanent roads would be constructed, although as stated in Section 4.1.11.1.2. (page 4-114) of the Draft EIS/EIR, some new access roads and "spur" roads would be constructed in the Project ancillary area. However, following the completion of final Project reclamation, these access and "spur" roads, and the haul and maintenance roads within the Project mine and process area to the open pit, would be reclaimed. At no time is it planned that existing traffic patterns will be interrupted during construction.

The thresholds of significance used in the Draft EIS/EIR are consistent with the thresholds of significance described in Appendix G to the CEQA Guidelines. NEPA or its implementing regulations do not suggest thresholds of significance for traffic impacts.

Revisions to the Final EIS/EIR: None.

Response to Comment I009:014: See Responses to Comments E002:017 and E002:020.

Response to Comment I009:015: See Response to Comment E001:011.

Response to Comment I009:016: See Response to Comment E002:017.

Response to Comment I009:017: The referenced discussions of the Picacho Mine and American Girl Mine are made in the section which describes the Proposed Action, not the sections which analyze the potential impacts of the Proposed Action, and are appropriate because of the experiences provided by these operations. Page 2-42 of the Draft EIS (Section 2.1.11.2.5.) makes reference to the Picacho Mine in a discussion of heap rinsing:

> "This [heap rinsing] would likely require twelve (12) months of rinsing (based on Chemgold, Inc.'s experience to date with the successful closing of four (4) heaps at the Picacho Mine)."

Page 2-43 of the Draft EIS (Section 2.1.11.3.3.) refers to revegetation test plots:

> "All revegetation treatments would be based on the Project test plots developed for the site-specific conditions of the Project area. Treatment may be the same as have been used

RESPONSE TO COMMENT LETTER I009 RECEIVED FROM LISA SENECA, RBRIGGAN AND ASSOCIATES, DATED FEBRUARY 26, 1998

elsewhere, such as at American Girl or Picacho Mines, but would be designed for environmental conditions specific to the Project. Ongoing monitoring of Picacho Mine reclamation, and Imperial Project concurrent and interim reclamation, would provide additional information for refining the Project seeding and revegetation plan, which would be updated with new information subject to the concurrence of the BLM and Imperial County, prior to the start of final reclamation and decommissioning of the Project area."

Revisions to the Final EIS/EIR: None.

Response to Comment I009:018: (See Also Response to Comment I009:004.) If located east of the West Pit West diversion channel, Indian Pass Road would be approximately 100 feet from the edge of the West Pit.

Revisions to the Final EIS/EIR: None.

Response to Comment I009:019: Section 3.3.1. (Page 3-10) of the Draft EIS/EIR states:

"There are no free-standing surface waters present within the Project area or vicinity. There are no springs, seeps or streams within the Project area. The region's low precipitation rate, coupled with the high evaporation rate and the presence of highly permeable soils in the washes, preclude the formation of perennial or intermittent streams."

Appendix E-1 on page 5 states that "Evaporation rates in the project area are estimated to be about 100 inches per year," and cites the hydrological assessment report prepared for the Mesquite Regional Landfill as the source. Average annual precipitation in the Project area is only approximately 3.6 inches (see Section 3.4.2.).

Revisions to the Final EIS/EIR: None.

Response to Comment I009:020: Section 3.4.3, pages 3-36 through 3-38, of the Draft EIS/EIR discusses the available existing meteorological and air quality conditions, both in Imperial County and in the Project area. As stated in this section, there are no substantial sources of hydrocarbon emissions near the Project area, and no ambient air quality standards exist for hydrocarbons, Volatile Organic Compounds (VOCs), or Reactive Organic Gases (ROGs). Thus, the assumption of negligible ambient concentrations is reasonable and appropriate, and there is no reason to conduct ambient monitoring for hydrocarbons at or near the Project area, either prior or subsequent to construction of the Project.

RESPONSE TO COMMENT LETTER I009 RECEIVED FROM LISA SENECA, RBRIGGAN AND ASSOCIATES, DATED FEBRUARY 26, 1998

The Draft EIS/EIR also states in this section that ambient levels of SO_2 and NO_2 were assumed to be small in the vicinity of the Project area because there are no major sources of these pollutants near the Project area that could substantially degrade air quality in the vicinity of the Project area. This remains a true statement. The Imperial County Air Pollution Control District (ICAPCD) does not and has not monitored the ambient air within the air basin for either of these air pollutants, and the air basin is currently designated as "better than national standards" for SO_2 and as "cannot be classified or better than national standards" for NO_2. In addition, the Draft EIS/EIR specifically states on page 3-35 that wind speeds and directions within the air basin, which are monitored by the ICAPCD and others, "tend to promote mixing, and generally transport locally generated air emissions away from the area." Thus, the conclusion that the ambient concentrations of SO_2 and NO_2 were insignificant is reasonable and appropriate, and there is no reason to conduct ambient monitoring for SO_2 or NO_2 at or near the Project area, either prior or subsequent to construction of the Project.

Revisions to the Final EIS/EIR: None.

Response to Comment I009:021: See Response to Comment I005:014.

Response to Comment I009:022: See Response to Comment I019:001.

Response to Comment I009:023: (The Following Response is Also Applicable to Comment I013:418.) Section 4.1.11.1.1 of the Draft EIS/EIR states that the Proposed Action would normally have a significant effect on the environment if it would cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system or if it would prevent or substantially reduce public access through elimination of important existing routes of travel. No new traffic counts were necessary because there were no changes in activities which would have substantially altered the counts taken in 1993, traffic volumes were light, and the traffic volume to be added to the existing roads by the Project was also light. Section 5.2 of the Draft EIS/EIR identifies all of the past, present, and reasonably foreseeable activities in the area of cumulative analysis. None of the listed projects which may contribute to traffic on Ogilby Road or Indian Pass Road in the vicinity of the Project area have enlarged or increased operations since 1993; in fact, the American Girl Mine has actually decreased its operations. Thus, there is nothing which indicates that traffic volume would have significantly increased. The traffic volume counts taken in 1993 (presented in Table 3.15 [Section 3.11.1., page 3-110 of the Draft EIS/EIR]) indicated that the existing area traffic levels were light. Section 4.1.11.1.2. of the Draft EIS/EIR estimated that 47 light-weight vehicle round trips and an average of three and one-half heavy-weight vehicle round trips per day attributable to the Project would travel on Ogilby Road. As also stated in this section,

these additional trips could be easily accommodated by area roads, in part because the workers' staggered shifts and different work periods would disperse the traffic flow throughout the day.

Revisions to the Final EIS/EIR: None.

Response to Comment I009:024: The discussion of subsidence contained in Section 4.1.1.2. (pages 4-2 and 4-3) of the Draft EIS/EIS specifically references Section 4.1.3.2.2. of the Draft EIS/EIR as the location of the information regarding the size of the aquifer and the amount of water extracted by the Project. Section 4.1.3.2.2. (pages 4-18 through 4-21) of the Draft EIS/EIR specifically references WESTEC, Inc. 1996a (Appendix E-1 of the Draft EIS/EIR, the "Hydrology Baseline Report" prepared for the Imperial Project) as the source of the information regarding the extraction of ground water from the aquifer for the Project. Appendix E-1 states on page 11 that the alluvial aquifers consist of consolidated and unconsolidated sands and gravels, and well log data presented in Appendix D to Appendix E-1 of the Draft EIS/EIR shows the entire section of the aquifer that is greater than 620 feet below ground surface (bgs) to be "poorly graded gravel with silt and sand."

Revisions to the Final EIS/EIR: None.

Response to Comment I009:025: (See Also Responses to Comments E002:019, I005:012 and J006:003.) As stated in Section 4.1.5.2.2. (pages 4-49 and 4-50) of the Draft EIS/EIR, the fairy duster, a BLM sensitive plant species, was observed in ephemeral drainages throughout the vicinity of the Project area. Because the fairy duster occurs over a large geographic area, including the Colorado, eastern Mojave, and Sonoran Deserts; is locally common; and can and would recolonize in washes previously disturbed by mining operations (Environmental Solutions 1987). The impact resulting from the loss of individual fairy duster plants, and fairy duster habitat, within the Project area was determined to be below the level of significance under NEPA in the Draft EIS/EIR. However, because of the mandatory findings of significance prescribed by CEQA guidelines, the impact of the loss this habitat on desert tortoise, Gila woodpecker, and peregrine falcon is considered significant under CEQA (See Section 1, above). This determination is reflected in the Final EIS/EIR.

Revisions to the Final EIS/EIR: None.

Response to Comment I009:026: See Response to Comment I012:023.

Response to Comment I009:027: See Response to Comment I015:019.

RESPONSE TO COMMENT LETTER I009 RECEIVED FROM LISA SENECA, RBRIGGAN AND ASSOCIATES, DATED FEBRUARY 26, 1998

Response to Comment I009:028: The hill immediately north-west of the West Pit is the referenced land form (see Figure 2.5, page 2-10, of the Draft EIS/EIR). As stated in Section 4.1.7.2. (page 4-89) of the Draft EIS/EIR, "Following the completion of construction, the overbuilt 92 kV/34.5 kV transmission line would present little contrast over the existing 34.5 kV transmission line." Figure 4-13 shows what the new 92 kV/13.2 kV transmission line will look like along Indian Pass Road. As stated in Section 4.1.7.4. (page 4-100) of the Draft EIS/EIR, even after mitigation the "residual impacts to the visual character of the Project area are judged to be significant and unmitigatable." Further, "The Proposed Action would result in a visual contrast with the surrounding area and would change the existing character of the landscape to a degree which would not conform with the BLM Class II visual objectives which have been applied to this Class L-designated area. This lack of conformance is a significant, unmitigatable impact."

Revisions to the Final EIS/EIR: None.

Response to Comment I009:029: (See Also Response to Comment I015:026.) Section 4.1.8.2. (page 4-101) of the Draft EIS/EIR briefly describes the primary sources of noise that would be generated from the Project, including ore loading and handling, safety backup alarms, and blasting. The description emphasizes the loudest sources of noise with the assumption that other sources of noise would reasonably result in less potential for adverse effect. A tabulated list of these and other Project noise sources are presented below in Table 4.8.

It should be noted that two identical pieces of equipment operating at the same time will result in a sound level increase of only about 3 dBA. Thus, if two pieces of equipment with a sound level of 86 dBA at 50 feet are operating simultaneously, then the perceived sound level will be 89 dBA; if four pieces of the same equipment were operating simultaneously, the result would be a sound level of 92 dBA; eight pieces of the same equipment would result in a sound level of 95 dBA. Given the frequency of equipment use for the Project, it was assumed that eight pieces of equipment operating simultaneously at 86 dBA (or a Project sound level of 95 dBA) would be a reasonable approximation of all of the Project operations.

None of the intermittent, infrequent, or spatially indeterminate noise sources listed in Section 3.8.2. (page 3-99) of the Draft EIS/EIR were determined to be "major" sources of noise. These noise sources were collectively considered as background or ambient noise sources when describing the existing noise in the Project area (i.e., 15 to 50 dBA). Further, none of these background noise sources were determined to be important noise contributors compared to the typically (except for the military helicopter use of the area) much louder Project noise sources (i.e., 95 dBA at 25 feet was used for the noise calculations conducted in the Draft EIS/EIR). Generally, as long as background

RESPONSE TO COMMENT LETTER I009 RECEIVED FROM LISA SENECA, RBRIGGAN AND ASSOCIATES, DATED FEBRUARY 26, 1998

noise sources are at least 10 dBA lower than the primary noise source being considered, the background noise will not interfere with the measurement of the primary noise source (Minnesota Pollution Control Agency. 1987. *An Introduction to Sound Basics*. St. Paul, Minnesota). The Draft EIS/EIR assumes that the maximum collective existing background noise for these sources was about 50 dBA at any representative receptor location in the Project area. This is a conservative assumption since it is louder than the 45 dBA used as the maximum baseline noise level for the Oro Cruz Project (Bureau of Land Management. 1994. *Final Environmental Impact Statement, Oro Cruz Operation of the American Girl Mining Project, November 1994* [page 140]). Based on this rationale, it is unnecessary to consider the comparatively quiet background noise sources when calculating the effects of noise from Project operations.

RESPONSE TO COMMENT LETTER I009 RECEIVED FROM LISA SENECA, RBRIGGAN AND ASSOCIATES, DATED FEBRUARY 26, 1998

Table 4.8: Projected Primary Noise Sources from the Project

Projected Primary Sources of Proposed Project Noise	Number of Units	Relative Frequency*	Noise Level (dBA)
Ore/Waste Rock Loading/Dumping:			
Haul Trucks	8	Frequent	86 at ≈50 feet[a]
Mine Dozer	1	Frequent	86 at ≈50 feet[a]
Loader	1	Frequent	86 at ≈50 feet[a]
Drill Rigs	2	Frequent	88 at ≈50 feet[b]
Electric Shovel	1	Frequent	N/A[d]
Heap Leaching Activities:			
Lime Silo/Hopper Loading	1	Infrequent	86 at ≈50 feet[a]
Heap Leach Dozer	1	Frequent	86 at ≈50 feet[a]
Mine and Process Area Support Activities:			
Water Trucks	2	Frequent	87 at ≈50 feet[a]
Back-up Diesel Generator	1	Rare	78 at ≈50 feet[b]
Grader	1	Frequent	85 at ≈50 feet[b]
Miscellaneous Vehicles/Equipment	5	Infrequent	72-88 at ≈50 feet[b]
Other Mobile Noise Sources:			
Delivery Truck Traffic	--	3.5 trips/day	60 at ≈300 feet[a]
Light Vehicle Traffic	--	47 trips/day	55-60 at ≈300 feet[a]
Impulse Noise Sources:			
Back-up Alarms	--	Intermittent	93 at ≈50 feet[c] 100 at ≈25 feet
Blasting Ore/Waste Rock	--	1/day	115 at ≈50 feet[c] 140 at ≈25 feet

*Relative Frequency is a qualitative assessment of the frequency that the noise sources will be producing the listed noise level. None of the equipment will be operating continuously for all 24 hours in a day. The following is an approximation of the estimated daily operating period for the equipment:

Frequent ≈12-16 hours/day
Infrequent <2 hours/day
Intermittent Occurs throughout the day, but is of short duration
Rare <1 hour/week

[a]BLM. 1993. *Environmental Assessment, Robinson Project*. Ely District Office, Egan Field Office, Ely, NV. (NV-040-2-37).
[b]Crocker, M.J. and F.M. Kessler. 1982. *Noise and Noise Control, Volume II*. CRC Press, Inc., Boca Raton, FL.
[c]BLM. 1997. *Olinghouse Mine Project Draft EIS*. Carson City Field Office, Carson City, NV. (N36-96-001P).
[d]N/A = Not Applicable. Since the shovel is electric, noise emissions will be principally limited to those created by the loading and dumping of the excavated rock material, which would be less than the noise generated by the loader conducting the same tasks.

RESPONSE TO COMMENT LETTER I009 RECEIVED FROM LISA SENECA, RBRIGGAN AND ASSOCIATES, DATED FEBRUARY 26, 1998

Revisions to the Final EIS/EIR: The following text and table of projected noise sources from the Project will be added to the end of the first paragraph on page 4-101 (Section 4.1.8.2.) of the Final EIS/EIR:

"Projected primary noise sources from the Project are identified in Table 4.8."

"It should be noted that two identical pieces of equipment operating at the same time will result in a sound level increase of only about 3 dBA. Thus, if two pieces of equipment with a sound level of 86 dBA at 50 feet are operating simultaneously, then the perceived sound level will be 89 dBA; if four pieces of the same equipment were operating simultaneously, the result would be a sound level of 92 dBA; eight pieces of the same equipment would result in a sound level of 95 dBA; etc."

RESPONSE TO COMMENT LETTER I009 RECEIVED FROM LISA SENECA, RBRIGGAN AND ASSOCIATES, DATED FEBRUARY 26, 1998

Table 4.8: Projected Primary Noise Sources from the Project

Projected Primary Sources of Proposed Project Noise	Number of Units	Relative Frequency*	Noise Level (dBA)
Ore/Waste Rock Loading/Dumping:			
Haul Trucks	8	Frequent	86 at ≈50 feet[a]
Mine Dozer	1	Frequent	86 at ≈50 feet[a]
Loader	1	Frequent	86 at ≈50 feet[a]
Drill Rigs	2	Frequent	88 at ≈50 feet[b]
Electric Shovel	1	Frequent	N/A[d]
Heap Leaching Activities:			
Lime Silo/Hopper Loading	1	Infrequent	86 at ≈50 feet[a]
Heap Leach Dozer	1	Frequent	86 at ≈50 feet[a]
Mine and Process Area Support Activities:			
Water Trucks	2	Frequent	87 at ≈50 feet[a]
Back-up Diesel Generator	1	Rare	78 at ≈50 feet[b]
Grader	1	Frequent	85 at ≈50 feet[b]
Miscellaneous Vehicles/Equipment	5	Infrequent	72-88 at ≈50 feet[b]
Other Mobile Noise Sources:			
Delivery Truck Traffic	--	3.5 trips/day	60 at ≈300 feet[a]
Light Vehicle Traffic	--	47 trips/day	55-60 at ≈300 feet[a]
Impulse Noise Sources:			
Back-up Alarms	--	Intermittent	93 at ≈50 feet[c] 100 at ≈25 feet
Blasting Ore/Waste Rock	--	1/day	115 at ≈50 feet[c] 140 at ≈25 feet

*Relative Frequency is a qualitative assessment of the frequency that the noise sources will be producing the listed noise level. None of the equipment will be operating continuously for all 24 hours in a day. The following is an approximation of the estimated daily operating period for the equipment:

Frequent ≈12-16 hours/day
Infrequent <2 hours/day
Intermittent Occurs throughout the day, but is of short duration
Rare <1 hour/week

[a]BLM. 1993. *Environmental Assessment, Robinson Project*. Ely District Office, Egan Field Office, Ely, NV. (NV-040-2-37).
[b]Crocker, M.J. and F.M. Kessler. 1982. *Noise and Noise Control, Volume II*. CRC Press, Inc., Boca Raton, FL.
[c]BLM. 1997. *Olinghouse Mine Project Draft EIS*. Carson City Field Office, Carson City, NV. (N36-96-001P).
[d]N/A = Not Applicable. Since the shovel is electric, noise emissions will be principally limited to those created by the loading and dumping of the excavated rock material, which would be less than the noise generated by the loader accomplishing the same task.

RESPONSE TO COMMENT LETTER I009 RECEIVED FROM LISA SENECA, RBRIGGAN AND ASSOCIATES, DATED FEBRUARY 26, 1998

Response to Comment I009:030: See Response to Comment I009:041.

Response to Comment I009:031: (The Following Response is Also Applicable to Comments M001:002, M001:006 and M004:003.) Other than Appendix A, which is a Glamis Imperial document, and Appendix B, the scoping documents, all of the other technical appendices were not prepared by Glamis Imperial, but by third-party consultants. Some of these third-party consultants were hired directly by Glamis Imperial; others were selected and managed by the agencies or the third-party preparers of the EIS/EIR. NEPA 40 CFR Part 1502.18(d) provides that EIS Appendices "Be circulated with the environmental impact statement **or be readily available on request**." (Emphasis added.) CEQA is silent regarding the circulation of appendices to an EIR. BLM and Imperial County thus were in compliance with NEPA and CEQA regarding the availability of the Draft EIS/EIR appendices.

The qualifications of the preparers of the Draft EIS/EIR was summarized in Chapter 8 of the Draft EIS/EIR. The Regulatory Framework for each environmental discipline was included in Chapter 3, which identified the regulatory or professional guidance that the authors of each Chapter used in conducting their analysis; data or information regarding the existing setting was also included in Chapter 3. Use of the regulatory or professional guidance would result in the highest degree of accuracy currently available from existing technology. In Chapter 4, the authors identified any assumptions used in conducting their analyses, and the assessment guideline, or threshold of impact significance, that gauged whether the project effects would be considered significant. The findings of the analysis was also included in Chapter 4. The Draft EIS/EIR thus summarized the contents of the technical studies within the applicable Chapters of the Draft EIS/EIR.

The discussion of the impacts of the Proposed Action on air resources contained in Section 4.1.4.2. (pages 4-27 through 4-44) of the Draft EIS/EIR contain twelve specific references to Appendix O ("Air Quality Analysis") as the source of the presented information.

Revisions to the Final EIS/EIR: None.

Response to Comment I009:032: See Responses to Comments I009:029, I009:033, and I009:041.

Response to Comment I009:033: As described in Table 4.6 (page 4-34) of the Draft EIS/EIR most of the "non-road engine" equipment proposed for the Project would be newly manufactured, including the haul trucks, the dozers, the drill rigs, the loader, the light plants, the grader, and the backup generator. These new pieces of equipment would have current noise muffling devices. Mitigation Measure 4.1.8-1 also provides for "all heavy equipment, drilling rigs, and other internal

combustion engines shall be equipped with mufflers to minimize noise generated during construction, operation and reclamation activities."

Revisions to the Final EIS/EIR: None.

Response to Comment I009:034: Section 4.1.8.2. (pages 4-101 and 4-102) of the Draft EIS/EIR states that "While some Project-generated noise levels may be barely discernable, other noises and noise levels would likely be judged intrusional, and some of these receptors may decide to avoid the areas surrounding the Project mine and process area, and instead use other recreational areas, during the life of the Project, especially during weekends of heavy recreational use. The effects of Project noise alone on dispersed recreational users are judged significant because of blasting on weekends of heavy recreational use; however, see Section 4.1.9.2. for the assessment of all Project effects on recreational use."

Mitigation Measure 4.1.8-3 was created to reduce this noise impact from blasting to dispersed recreational users on the higher use "winter" season weekend days to below the level of significance by severely restricting or eliminating blasting on those days. Mitigation Measure 4.1.8-3 states:

> "Blasting shall only be conducted during daylight hours unless required for safety reasons. During the months of October through March, the Applicant shall take all reasonable steps to avoid blasting on weekend days (Saturday and Sunday), and shall not blast on the following major recreational holidays (Thanksgiving [Thursday through Sunday]; Christmas [Christmas day and all associated weekend days]; New Years [New Years eve, New Years day, and all associated weekend days]; and President's Day [and associated weekend days]) unless required for safety reasons or necessary to maintain production due to the mechanical breakdown of production equipment or other unforseen circumstances. Prior to conducting blasting on any of these designated weekend days or major holidays, Applicant shall on that day notify the BLM and take reasonable steps to notify those recreational users of the public lands located along Indian Pass Road or within one (1) mile of the boundary of the Project mine and process area boundary of the approximate time that blasting will occur."

Thus, implementation of the mitigation measure substantially reduces the number of occasions when substantial numbers of dispersed recreational users would be subject to the noise and "startle factor" produced by the blasting. However, safety circumstances (such as the need to blast to remove an unstable slope wall) could still dictate that blasting occur on a high use weekend day or holiday. In these circumstances, the mitigation measure does not give the Project Applicant the freedom to "blast at will." The Applicant must advise the BLM of the circumstances that resulted in the need

to blast, and requires the Applicant to take reasonable steps to advise those individuals within one mile of the Project mine and process area that a blast will be occurring; thereby providing those individuals that would be affected by the blast the opportunity to prepare for the blast.

Revisions to the Final EIS/EIR: None.

Response to Comment I009:035: Odor impacts from the Project were not addressed in the Draft EIS/EIR. Odor impacts were not identified during either of the two scoping periods as an issue of concern, nor have they been identified as a significant issue at other heap leach precious metal mines in the arid areas of the southwest.

None of the Project operations would produce any significant odors. As stated in Section 2.1.9.4. (page 2-24) of the Draft EIS/EIR, "Numerous chemicals would typically be transported to, stored at, and used by, the Project (see Appendix A for a complete list of chemicals stored and used)." None of these chemicals have a particularly strong odor, nor do those reaction products which are created in substantial quantities. The "heavy equipment" used by the Project will be powered principally by diesel engines (the shovel will most likely be electric); these equipment will mostly be new (see Table 4.6, page 4-34 of the Draft EIS/EIR), and will not produce significant odors outside of the Project mine and process area while operating or being serviced.

Revisions to the Final EIS/EIR: None.

Response to Comment I009:036: Water supply is discussed in Section 3.11.2. (pages 3-110 and 3-111) of the Draft EIS/EIR. As stated on page 3-111, "Due to the remoteness, there is no public water service available to the Project area from the Imperial Irrigation District or others. Potable and process water for other projects located in the vicinity of the Project area is typically obtained from private wells." Section 4.11 of the Draft EIS/EIR states on page 4-117 that:

> "No utility-provided water services are available to the Project area. Water for mine operations and fire protection would be produced from ground water wells constructed southwest of the Project area and piped in a buried pipeline to the Project area. The produced water would be stored in an on-site water storage tank for mining and fire protection requirements. Water collected in the open pits would be used where possible for roadway dust suppression purposes. Accordingly, there would be no adverse effect on water utility systems as a result of the Proposed Action."

RESPONSE TO COMMENT LETTER I009 RECEIVED FROM LISA SENECA, RBRIGGAN AND ASSOCIATES, DATED FEBRUARY 26, 1998

Because the water used for the Project during all phases of construction, operation, and reclamation will be supplied by ground water produced from wells on public land near the Project site that is not within any local water district supply or service area, there was no reason to contact any local water district about the effects of the Project on their water supply or facility capacity.

Revisions to the Final EIS/EIR: None.

Response to Comment I009:037: As stated in Section 2.1.9.3.1. (pages 2-21 through 2-23) of the Draft EIS/EIR, approximately sixteen miles of an existing Imperial Irrigation District (IID) 34.5 kV transmission line would be overbuilt with a new 92 kV transmission line, and would continue to be owned by IID. On the south side of Indian Pass Road, a new approximately 3.7 miles of 92 kV transmission line would be constructed, extending to a 92 kV/13.2 kV mine substation to be located within the Project mine and process area; this transmission line would also be owned and operated by the IID. Both of these transmission lines are part of the Proposed Action and would be fully funded by the Applicant. As identified in Section 8, Preston Polk, General Superintendent of IID, has been involved with the transmission line design. Maintenance would be conducted by the IID; little or no increase in maintenance cost would occur for the IID electrical transmission line as IID already maintains the existing line. As noted in Section 4.1.11.2.2. (page 4-117), at the conclusion of the Project the new 92 kV transmission line would be removed. No increase in rates to IID subscribers would occur.

Revisions to the Final EIS/EIR: None.

Response to Comment I009:038: See Response to Comment I009:013.

Response to Comment I009:039: Section 2.1.9.6. (page 2-28) of the Draft EIS/EIR describes the possible dust suppression chemicals to be used:

> "Water and/or an environmentally acceptable chemical dust inhibitor such as sodium lignosulfonate (a non-toxic non-hazardous, co-product of cellulose produced from trees), would be applied to Indian Pass Road from its intersection with Ogilby Road to the boundary of the Project mine and process area . . . . As part of Glamis Imperial's operations, water sprays and/or chemical treatments, which do not contain petroleum or petroleum by-products, would be used to minimize the generation of dust from disturbed surfaces within the Project mine and process area. Water, and/or an environmentally acceptable chemical dust inhibitor, such as magnesium chloride, would be applied to the haulage and other roads in sufficient quantities to minimize dust emissions. Water would generally be

applied on those roads used only temporarily, while the chemical dust inhibitor would be routinely applied to the more heavily traveled areas."

Further, Mitigation Measure 4.1.4-1 requires that:

"Only chemical dust suppressants acceptable to all appropriate agencies shall be applied, and the application rates and frequencies, for both the dust suppressant and water, shall be consistent with the guidance of the manufacturer to achieve optimal suppression of dust. Dust suppressant and/or water shall be applied no less than twice per day on days without precipitation unless road surface moisture is documented as sufficient to achieve maximum suppression of fugitive dust emissions without the additional dust suppressant or water."

The Material Safety Data Sheet (MSDS) for sodium lignosulfonate indicates no environmental hazards; spilled material may be landfilled and residue flushed away with water. The MSDS for magnesium chloride also indicates no environmental hazards, and directs that spilled material may also be flushed away with water. No evidence has been presented which contradicts the statements made in the Draft EIS/EIR that these chemicals are non-toxic and non-hazardous.

Revisions to the Final EIS/EIR: None.

Response to Comment I009:040: A Phase I Environmental Site Assessment (Phase I ESA) is typically conducted (in conformance with the scope and limitations of ASTM Practice E 1527-97) prior to the acquisition of a real interest in a property to evaluate the property for the presence of, or reasonable potential presence of, hazardous or toxic substance contamination. A Phase I ESA also serves the purpose of meeting one of the requirements of the innocent landowner defense to liability under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), that "all appropriate inquiry into previous ownership and uses of the property consistent with good commercial or customary practice" as defined in 42 USC §9601(35)(B). The purpose, therefore, is to protect the buyer of property, but there is no legal or regulatory requirement for the preparation of a Phase I ESA. As stated in Section 3.9.2. (page 3-102) of the Draft EIS/EIR, the entire Project area is located within a remote area of eastern Imperial County on undeveloped public lands, that would have little, if any, potential for hazardous substance contamination except by unauthorized dumping. No physical evidence of petroleum hydrocarbon or hazardous substance contamination was observed during cursory visits to the Project site. Glamis Imperial has not indicated that a formal Phase I ESA of Project area was prepared on their behalf, and no public records of an earlier Phase I ESA were located during the preparation of the Draft EIS/EIR.

RESPONSE TO COMMENT LETTER I009 RECEIVED FROM LISA SENECA, RBRIGGAN AND ASSOCIATES, DATED FEBRUARY 26, 1998

Revisions to the Final EIS/EIR: None.

Response to Comment I009:041: (The Following Response is Also Applicable to Comments I009:030, I013:406, I013:407, I013:408, I015:027, J006:002.) (See Also Responses to Comments I005:014 and I015:026.) The general direct and indirect effects of noise generated by the Project are evaluated in Section 4.1.8.2.; noise effects on recreation are specifically discussed in Section 4.1.9.2.; and the effects of noise on wildlife are evaluated in Section 4.1.5.3. of the Draft EIS/EIR.

The method used in the Draft EIS/EIR for calculating noise attenuation with distance and impacts at receptor locations is described in the second paragraph of page 4-101 (Section 4.1.8.2.) of the Draft EIS/EIR. The analysis used a conservative rate of noise attenuation of 6 dBA for each doubling of distance from the Project noise source(s). The Draft EIS/EIR explains that this guideline is considered conservative because it does not take into account noise attenuating factors such as topography, wind, temperature gradients, atmospheric pressure, or other site-specific factors such as the upward deflection of noise generated at the bottom of the excavated mine pits. The conservative guideline of a 6 dBA sound attenuation with each doubling of distance is an approximation of the following formula:

$$\text{dB level at receptor} = \text{dB level near source} + 20 \log_{10} D_{reference}/D_{receptor}$$

where,

$D_{reference}$ is the distance from the noise source to the measurement location of the reference sound pressure level; and

$D_{receptor}$ is the distance between the noise source and the noise receptor.

RESPONSE TO COMMENT LETTER I009 RECEIVED FROM LISA SENECA, RBRIGGAN AND ASSOCIATES, DATED FEBRUARY 26, 1998

Using this formula, conservative sound level estimates at specific locations, such as the nearest sensitive noise receptor location (i.e., Gold Rock Ranch), located approximately seven miles (36,960 feet) from the Project mine and process area, can be calculated for both general and specific Project noise sources. These calculations are tabulated below:

Project Sound Source	Maximum Sound Levels	Projected Sound Levels (dBA)
Project Operations	95 dBA at 25 feet	31.6
Backup Alarms on Haul Trucks	93 dBA at 50 feet	35.6
	100 dBA at 25 feet	36.6
Blasting (Daylight Hours Only)	115 dBA at 50 feet	57.6
	140 dBA at 25 feet	76.6

Except for the impulse sounds from blasting, sound levels originating from the Project mine and process area would be expected to be no greater than approximately 32-37 dBA at the nearest sensitive receptor, Gold Rock Ranch. These sound levels approximate the measured outdoor day-night average wilderness ambient sound levels (L_{dn}) of 35 dBA reported by the EPA (U.S. Environmental Protection Agency. 1974. *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety.* EPA/ONAC 550/9-74-004 [March 1974]). Based on this information, the Draft EIS/EIR, on page 4-101 (Section 4.1.8.2.) was correct in stating that "sound pressure levels generated from all normal operating activities at the Project mine and process area should not be audible at this receptor."

The Draft EIS/EIR also states that the impulse sound level from blasting would be discernable at this location. Discernable is defined as being able to distinguish a sound over ambient sound levels. A general "rule of thumb" is that a change of +/- 3 dBA is barely perceptible, and a change of +/- 5 dBA is quite noticeable (Minnesota Pollution Control Agency. 1987. *An Introduction to Sound Basics*. St. Paul, Minnesota). Therefore, an increase of 3-5 dBA over ambient noise would be considered "discernable." Rural residential outdoor day-night average sound levels are approximately 40 dBA (U.S. Environmental Protection Agency. 1974. *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety.* EPA/ONAC 550/9-74-004 [March 1974]). As shown in the table above, the conservatively projected impulse noise at Gold Rock Ranch from blasting at the Project mine and process area would be from 58 to up to 77 dBA. However, as stated in Section 4.1.8.2. (page 4-101) of the Draft EIS/EIR, this noise attenuation formula is conservative "since it does not account for noise

attenuating factors such as topography, wind, temperature gradients, atmospheric pressure, and other site-specific factors, such as the upward deflection of noise generated down in the bottom of a pit," all of which would likely further attenuate blasting noise levels at this distance. (Note that the Final EIS for the Oro Cruz Project (Bureau of Land Management. 1994. *Final Environmental Impact Statement, Oro Cruz Operation of the American Girl Mining Project, November 1994* [pages 202 and 203]) states that "Blasting may or may not be heard at 3 miles [the distance to Gold Rock Ranch] depending on the weather and temperature inversions, effect of the natural barriers around the project, and intensity of each particular blast. If a blast is heard, it would be heard only during daytime hours, and would be heard only as a low-frequency rumbling which is not generally an obtrusive sound.") Regardless of the additional noise attenuation factors, the sound of blasting would likely still be discernable above background sound levels at Gold Rock Ranch.

The Project description presented in Section 2.1.3. (page 2-11) of the Draft EIS/EIR states "Blasting would occur only during daylight hours." This restriction is repeated in Mitigation Measure 4.1.8-3. Because of the very brief, infrequent, and restricted (to daylight hours) nature of the blasting, the noise from blasting was qualitatively evaluated as not "intrusional" at the nearest sensitive receptor, Gold Rock Ranch (see definition of "intrusional" below).

The noise attenuation formula presented above can be used for conservatively estimating the sound level from the Project at any distance from the Project mine and process area. For estimating noise at receptor locations near the Project mine and process area, the Draft EIS/EIR reasonably assumed that the typical source of the Project noise (95 dBA at 25 feet) was located near the center of the South Waste Rock Stockpile. Using the conservative 6 dBA noise attenuation approximation, Section 4.1.8.2. (page 4-101) of the Draft EIS/EIR states that the sound level would be approximately 60 dBA at an estimated distance of 1,600 feet to Indian Pass Road; the sound level calculated using the still conservative formula provided above leads to an estimate of 58.9 dBA.

Table 3.13a (See Response to Comment I015:026) presents that an average day-night sound level (L_{dn}) of 55 dB would interfere with outdoor activity and be an annoyance. L_{dn} is a calculated description of sound over a 24-hour period that takes into account that sounds are more annoying at night by adding 10 decibels to the sound levels occurring between 10:00 p.m. and 7:00 a.m. before totaling. The following equation can be used to approximate the distance from the Project mine and process area that would exceed an L_{dn} of 55 decibels:

$$L_{dn} = 10\log_{10}\{[15 \times 10^{(Leq(day)/10)}] + [9 \times 10^{(Leq(night)/10)}]\} - 13.8$$

RESPONSE TO COMMENT LETTER I009 RECEIVED FROM LISA SENECA, RBRIGGAN AND ASSOCIATES, DATED FEBRUARY 26, 1998

From the above equation a continuous 24-hour sound level of approximately 48.5 dBA would be equivalent to an L_{dn} of about 55 dBA. Reasonably assuming the 24-hr L_{eq} in the vicinity of the Project area would be largely attributed to noise from the proposed Project activities, then the distance from the Project mine and process area that would exceed an L_{dn} of 55 dBA would be equivalent to the distance that sound level from the Project activities exceeds 48.5 dBA. From the equation {dB level at receptor = dB level near source + 20 $\log_{10}$ $D_{reference}/D_{receptor}$} it can be determined that the distance from which the noise source(s) within the Project mine and process area that noise levels would exceed 48.5 dBA would be a distance of approximately one mile. Thus, for a distance of approximately one mile from the noise source(s) within the Project mine and process the L_{dn} would exceed 55 dBA and would be considered an interference and annoyance to outdoor activities in which quiet is a basis for use.

The noise significance criteria provided in Section 4.1.8.1. (page 4-100) of the Draft EIS/EIR are that:

> "The Proposed Action would normally have a significant effect on the environment if it would
> - Have the potential to result in a significant increase in noise levels to sensitive receptors in the area; or
> - Conflict with any applicable noise restrictions imposed by regulatory agencies."

Section 3.8.2. (page 3-100) states that:

> "Sensitive noise receptors are, in general, those areas of human habitation or substantial use where the intrusion of noise has the potential to adversely impact the occupancy, use, or enjoyment of the environment. These can include residences, schools, hospitals, parks, and places of business requiring low levels of noise. Since the Project area is situated in a very remote area, there are no such typical sensitive human receptors in or anywhere near the Project area. There are temporary human receptors associated with the use of the Indian Pass recreation corridor, including the two (2) new wilderness areas, located within one-half (½) and one and one-half (1½) miles of the Project mine and process area (see Figure 3.15 and Section 3.9.2.1.)."

Since dispersed recreational users are not defined as sensitive noise receptors, this "intrusional" impact is below the level of significance. Additional discussion of the noise impacts to dispersed recreational users is found in Section 4.1.9.2. (pages 4-106 through 4-108) of the Draft EIS/EIR.

RESPONSE TO COMMENT LETTER I009 RECEIVED FROM LISA SENECA, RBRIGGAN AND ASSOCIATES, DATED FEBRUARY 26, 1998

Further, the statement in Section 4.1.8.4. (page 4-103) of the Draft EIS/EIR that there are no "sensitive noise receptors in the vicinity of the Project area" is correct.

Revisions to the Final EIS/EIR: The following sentence will be inserted following the second sentence in paragraph two on page 4-101 of the Draft EIS/EIR: The general formula for determining noise impacts at receptor locations is: dB level at receptor = dB level near source + 20 $\log_{10}$ $D_{reference}/D_{receptor}$. Where, $D_{reference}$ is the distance from the noise source to the measurement location of the reference sound pressure level, and $D_{receptor}$ is the distance between the noise source and the noise receptor.

The fourth sentence in paragraph two on page 4-101 of the Draft EIS/EIR will be revised to reflect the distance to an L_{dn} of 55 dBA: "Peak ambient background noise levels (50 dBA to 30 dBA) would be expected to be approached at a distance of approximately one-half (½) to five (5) miles, respectively, from the Project mine and process area from these activities, and produced an L_{dn} of 55 dBA at a distance of one mile.

Response to Comment I009:042: (The Following Response is Also Applicable to Comment I013:409.) Native American religious use of the Project area is extensively described in Section 3.6. of the Draft EIS/EIR, and the potential impacts to these religious uses are discussed in Section 4.1.6. Native American religious use of the Project area is more appropriately considered in a cultural resource context.

Revisions to the Final EIS/EIR: None.

Response to Comment I009:043: The complete text cited is as follows:

> "The nearest residence and area of concentrated public activity is the Gold Rock Ranch, located approximately seven (7) miles southwest of the Project mine and process area. The Proposed Action is compatible with this existing use, since the Project would result in negligible increases in noise and traffic along Ogilby Road, and would result in negligible decreases in air quality, for the residents and visitors at Gold Rock Ranch."

The cited text is supported by analysis conducted in the following sections of the Draft EIS/EIR: noise impacts at Gold Rock Ranch, discussed in Section 4.1.8.2. (page 4-101); air quality impacts at Gold Rock Ranch, discussed in Section 4.1.4.2. (page 4-40); and Section 4.1.11.1.2. (page 4-113), which discusses the traffic impacts for the section of Ogilby Road north of the Southern Pacific railroad tracks near Gold Rock Ranch.

RESPONSE TO COMMENT LETTER I009 RECEIVED FROM LISA SENECA, RBRIGGAN AND ASSOCIATES, DATED FEBRUARY 26, 1998

Revisions to the Final EIS/EIR: None.

Response to Comment I009:044: T.A. Manfredi, Community Planner, Community Planning and Liaison Office, Marine Corps Air Station, Yuma (MCAS YUMA) provided input regarding the potential impacts of the Project on aviation safety of military aircraft, and especially low-flying military aircraft. Mitigation Measure 4.1.9-3 in the Draft EIS/EIR reads: "Applicant shall keep the USMC air station in Yuma, Arizona apprized of the current schedule and location for blasting at Project mine and process area to minimize the potential for low-flying military aircraft to be over the Project mine and process area during blasting activities." This mitigation measure ensures that the potential impact is below the level of significance.

Revisions to the Final EIS/EIR: None.

Response to Comment I009:045: Each of the statements cited regarding the unavoidable impacts and the level of significance after mitigation are discussed in Section 4.1.9.2. (pages 4-104 through 4-108, and the thresholds of significance are explicitly discussed in Section 4.1.9.1. (page 4-103) of the Draft EIS/EIR.

Revisions to the Final EIS/EIR: None.

Response to Comment I009:046: See Response to Comment I009:013.

Response to Comment I009:047: Intersections in which the roadways are at right angles (at 90°) to each other are always preferred over acute angles (angles less than 90°) as they offer optimum sight distances at all speeds and turning vehicles do not need to reduce speeds to the same degree as with acute intersections. In addition the relatively small increase in traffic volume that will be turning at the intersection of Ogilby Road and Indian Pass Road, estimated at 47 light-weight vehicle trips and 3.5 heavy-vehicle trips per day (page 4-113 of the Draft EIS/EIR), would not result in a significant change in the through-traffic flow on Ogilby Road. As stated in Section 2.1.9.6. (page 2-26) of the Draft EIS/EIR, Glamis Imperial proposes to realign the intersection of Ogilby Road and Indian Pass Road to right angles. The geometry of the realignment is generally discernable in Figure 2.7 (page 2-22) of the Draft EIS/EIR, and shows the realigned Indian Pass Road turning south to intersect Ogilby Road at a right angle. As can also be seen on Figure 2.7 (and on Figures 2.8 and 3.7), Ogilby Road runs straight for at least one mile both southeast and northwest of its existing (and realigned) intersection with Indian Pass Road, and topographic relief over this section of the road is minimal, which means that existing sight distances would be more than sufficient, even at highway speeds, for safely making the turns onto and off of Indian Pass Road without left- and

RESPONSE TO COMMENT LETTER I009 RECEIVED FROM LISA SENECA, RBRIGGAN AND ASSOCIATES, DATED FEBRUARY 26, 1998

right-hand turn pockets. Applying the impact criteria established in Section 4.1.11.1.1, the intersection realignment would neither cause a substantial increase in traffic nor reduce public access, characteristics that would normally have a significant effect on the environment; rather, the intersection realignment would increase the traffic volume capacity of the intersection while reducing the potential for accidents due to poor sight distances.

Revisions to the Final EIS/EIR: None.

Response to Comment I009:048: Section 2.1.9.5. (page 2-25) of the Draft EIS/EIR provides estimates of the amounts of operational wastes generated:

> "Septic treatment systems with leach drain fields would be installed near the office and shop facility, adjacent to the processing and laboratory facilities, and adjacent to the lime storage facility. Glamis Imperial would contract with local disposal service companies for the pumping of septic tanks and the removal of other non-mining waste (trash) from the Project area for disposal in an approved landfill. These wastes are estimated at one (1) ton per day, based upon historic Picacho Mine and Mesquite Mine data. Regulated wastes, such as used antifreeze, spent solvents, batteries, and used oils and oil filters, would be transported off-site by a company authorized to recycle these regulated wastes. These wastes would be recycled or disposed of in conformance with all applicable local, state and federal laws and regulations, and in a manner approved by the responsible regulatory agencies. These wastes are also estimated to be approximately one (1) ton per day, based on historic Picacho Mine data."

Landfills in Imperial County are described in Section 3.11.2 of the Draft EIS/EIR and include ten (10) County-operated Class III (non-hazardous) disposal sites. California Integrated Waste Management Board (CIWMB) landfill tonnage records for the years 1993-1998 indicate that an average of more than 162,000 tons of solid waste are collectively disposed of in ten County landfills each year (http://www.ciwmb:ca.gov/Landfills/Tonnage/). Negligible quantities of solid waste are anticipated to be generated during the construction or reclamation phases of the Project. During active mine operations the estimated one (1) ton per day (365 tons per year) of non-hazardous waste expected to be generated by the Project would result in a *de minimus* increase of about 0.22% of the solid waste currently disposed of in the County landfills. Any contribution to landfills has the negative effect of incrementally reducing its remaining capacity, but it is also a valid expectation of property tax payers to receive public services, including reasonable use of landfills and landfill capacity within the jurisdiction. In Section 2.1.11.2.4. and Section 4.1.11.2.2. of the Draft EIS/EIR, it is noted that portable and salvageable structures would be removed from the waste stream to

reduce the amount of materials to be placed in landfills. If the Imperial County-operated landfills cannot accept non-hazardous waste materials because of lack of remaining capacity, private landfills or landfills in Arizona would be used. Applying the impact criteria described in Section 4.1.11.2.1 and based on the one (1) ton per day estimation of non-hazardous waste generated per day, this amount of waste would not result in nonconformance with the significance criterion of exceeding national, state or local landfill standards and consequently, would not result in significant impact.

Revisions to the Final EIS/EIR: None.

Response to Comment I009:049: The Draft EIS/EIR (Section 4.1.11.2.1, page 4-117) noted that no radio communication interference would be anticipated as the military and the mining industry use different communication frequencies. As such, the potential impact was determined to be below the level of significance. However, because of the potential for loss of life in the unlikely event of some unforseeable communication interference, and to further reduce any potential for adverse effect, Measure 4.1.11.2-4 was drafted as an "Other Mitigation Measure." "Other Mitigation Measures" are defined in the Draft EIS/EIR as "measures which may further reduce the impacts of certain effects which are below the level of significance without mitigation." The potential for the mine communication system(s) to interfere with the military overflight communication system(s) was determined to be below the level of significance, and as no impact is anticipated, the CEQA requirements relevant to mitigation measures for significant impacts are not applicable. However, the Final EIS/EIR will revise the "Other Mitigation Measure" to provide the public with an opportunity to review and confirm that the measure is implemented.

Revisions to the Final EIS/EIR: Other Mitigation Measure 4.1.11.2-4 has been amended as follows: "Prior to beginning Project construction activities Applicant shall ~~work with~~ submit a list of the communication system frequencies that the mine proposes to use to the USMC to allow the USMC the opportunity to ensure that neither the Project microwave communication system nor the Project FM mine communication system is likely to interfere with military overflight communications. Prior to changing the Project communication system frequencies the Applicant shall submit a list of the proposed communication system frequency changes to the USMC for consideration prior to implementing the changes in the Project communication system frequencies."

Response to Comment I009:050: (See Also Response to Comment I012:021.) The quoted comment is incomplete; the full quote from page 4-126 of the Draft EIS/EIR reads:

> "The environmental consequences of the Proposed Action (see Section 4.1.1. through Section 4.1.12.) will not result in any conditions, such as reduced air quality, noise exposure,

RESPONSE TO COMMENT LETTER I009 RECEIVED FROM LISA SENECA, RBRIGGAN AND ASSOCIATES, DATED FEBRUARY 26, 1998

or transportation of hazardous or other materials, which could produce a substantial direct or indirect impact to human health or environmental effects to any population residing at the distances identified above from the Project area."

Section 4.1.1. through Section 4.1.12. of the Draft EIS are the sources of the assessment of the consequences of the Project. Appendix L of the Draft EIS/EIR presented the technical air quality impact assessment for the Project. No technical studies of noise and transportation "of hazardous materials" were undertaken, and the analyses necessary for the Draft EIS/EIR were conducted in the body of the text. As stated in the quote, the "impact threshold" was whether the condition "could produce a substantial direct or indirect impact to human health or environmental effects to any population residing at the distances identified above from the Project area."

Revisions to the Final EIS/EIR: None.

Response to Comment I009:051: The preparation of the photosimulations was described on page 4-91 (Section 4.1.7.2.) of the Draft EIS/EIR, which is quoted below:

"In accordance with BLM Visual Manual Section 8400, analyses of the visual effects of the Proposed Action following completion of Project mining and reclamation activities have been conducted. Photosimulations were prepared to simulate the post-mining, post-reclamation view from each of the same four (4) KOPs. These photosimulations were prepared on digitized versions of the views shown in Figure 4.2, Figure 4.4, Figure 4.6, and Figure 4.8. To ensure proper location and scaling of the landforms which make up the Proposed Action within the Project mine and process area, USGS digital elevation maps (DEMs) were combined into a single base map on which was electronically placed the Project mine and process area boundary and the final contours for each of the major Project landforms (waste rock stockpiles, heap, and open pit) (see Figure 2.4). This information was used to create computer-generated, three-dimensional views of the topography of the Project mine and process area following the completion of final reclamation from each of the four (4) KOPs. The computer-generated images were scaled and printed to match each of the views shown in Figure 4.2, Figure 4.4, Figure 4.6, and Figure 4.8, then used to check final form and placement of the simulated views so that they were created as accurately as possible. Using images of similar reclaimed areas in similar rock types from the Picacho Mine and the Mesquite Mine to match colors and textures, photosimulations were created for each KOP."

Revisions to the Final EIS/EIR: None.

RESPONSE TO COMMENT LETTER I009 RECEIVED FROM LISA SENECA, RBRIGGAN AND ASSOCIATES, DATED FEBRUARY 26, 1998

Response to Comment I009:052: Appendix M ("Visual Contrast Rating Sheets") were referenced on page 3-96 (Section 3.7.2.) of the Draft EIS/EIR. The conclusions stated on the sheets regarding the lack of consistency with the management objectives of a Class II area are discussed on page 4-99 (Section 4.1.7.2.) of the Draft EIS/EIR, and this lack of consistency was determined to be a significant effect.

Revisions to the Final EIS/EIR: None.

WESTERN MINING ACTION PROJECT **I010**
1405 Arapahoe Ave.
Boulder, CO 80302
(303) 473-9618
Fax (303) 440-8052

P.M. Hard Copy & E.M.

April 10. 1998

U.S. Bureau of Land Management
Attn: Douglas Romoli
El Centro Resource Area
1661 South 4th Street
El Centro, California 92243

Re: **Comments on the Draft Environmental Impact Statement/Report on the Imperial Project**

001 These comments are submitted by the Western Mining Action Project (WMAP), as attorney for and on behalf of the **San Diego Chapter of the Sierra Club, Mineral Policy Center, Wilderness Society, and the California Wilderness Coalition (collectively, the Chapter).** These comments supplement the other comments submitted by the Chapter regarding the Imperial Project. All Chapter comments, including these submitted by WMAP, are to be included in the administrative record for all BLM and Imperial County decisionmaking processes for the Imperial Project. All Chapter comments relevant to federal laws and other requirements (e.g., NEPA) also apply to the relevant California and Imperial County laws and other requirements (e.g., CEQA, cultural and historical protection). The Chapter's other comments on many of the inadequacies of the DEIS/EIR are incorporated by reference and will not be repeated herein. This letter also incorporates by reference as if fully set forth herein the comments of the U.S. Environmental Protection Agency (EPA) on the DEIS/EIR in EPA's March 19. 1998. letter from Deanna M. Wieman to Douglas Romoli of the BLM (including all attachments). The following comments highlight additional critical issues that warrant the BLM's and Imperial County's rejection of the DEIS/EIR and the underlying Project as proposed by Glamis Imperial Corporation.

002 **I. <u>The BLM Cannot Approve the Proposed Plan of Operations Due to the Undue Impairment of Class "L" Lands Within the California Desert Conservation Area</u>**

Throughout the DEIS/EIR, the BLM maintains that it is statutorily prohibited from requiring any mining alternative or mitigation that would render the Project "uneconomic." To support this, the BLM relies almost exclusively upon the supposed "rights" of Glamis under the 1872 Mining Law. In so doing, the BLM has utterly failed to properly apply the most significant amendment to the 1872 Mining Law – the Federal Land Policy and Management Act of 1976 (FLPMA).[1]

[1] The Mining Law itself recognizes that all "rights" under it are held "under regulations prescribed by law." 30 U.S.C. §22. Environmental and other resource protection requirements

FLPMA places severe restrictions on the ability of mining claimants to disturb public lands in the California Desert Conservation Area (CDCA) – and requires the BLM to reject proposed mining operations that cannot meet the strict environmental, cultural, and other resource protection standards associated with the CDCA.

As acknowledged by the DEIS/EIR, the Imperial Project, as proposed, will irrevocably destroy significant resources, including some of the most important cultural, archeological, religious, and spiritual sites of the Quechan Indians. The proposed Project will also violate the BLM's visual requirements for the CDCA, "take" critical numbers of desert tortoise, and violate state air quality standards, among other environmental impacts. The central reason for such destruction is the Project proponent's chosen method of mining – three open pits (not all backfilled) with associated waste rock dumps and heap leaching facilities.

A critical issue to be resolved is whether the BLM should reject alternative mining methods that may not lend themselves to profitable operations at current prices – even if that rejection would violate the mandates of FLPMA. For example, an alternative of underground mining (including off-site processing and waste location), while likely uneconomic at current gold prices, would substantially reduce the very impacts FLPMA and the creation of the CDCA were meant to protect against.

At first glance, this case presents a clash between conflicting Congressional direction given the Interior Department by Congress in the 1872 Mining Law and FLPMA. In actuality, however, there really is no "clash" since Congress specifically amended the 1872 Mining Law with FLPMA's environmental and other resource protection requirements. In FLPMA, Congress specifically stated that both the generalized "unnecessary or undue degradation" standard and the specific requirements to protect CDCA lands from "undue impairment" amended the Mining Law of 1872 so as to "impair the rights of any locators or claims under the Act, including, but not limited to, rights of ingress and egress." 43 U.S.C. 1732(b). If mining claims cannot be developed without violating FLPMA's strict environmental requirements, then they cannot be developed – period.

In this case, it is clear that development of Glamis' mining claims cannot be done at current market conditions without violating the protective standards for the California Desert Conservation Area (CDCA). Specifically, the open pit mining method's complete destruction of critical Native American and environmental resources requires that such a method be rejected by the BLM. If, at some future market condition in which a non-open pit method becomes profitable, then the applicant may consider resubmitting its Plan of Operations. Until then, the BLM is bound by federal law to reject the open pit method. Indeed, due to the staggering destruction any modern industrial mine would have upon the resources and values at the site, the no-action alternative should be chosen. The 1872 Mining Law, as amended by FLPMA, requires this result. The following analysis details this conclusion.

---

mandated under FLPMA are clearly such "regulation."

003 Requirements of FLPMA

The Imperial Project is located on lands within the California Desert Conservation Area (CDCA). The CDCA was established by Congress in the Federal Land Policy Management Act of 1976 (FLPMA), and represents a unique public land classification. FLPMA section 1732(b) specifically notes that FLPMA's provisions regarding the CDCA represent an amendment of the 1872 Mining Law – the law relied upon (albeit inappropriately) by the BLM to reject less damaging alternatives to the proposed, and preferred, alternative.

FLPMA section 1781(f), 43 U.S.C. 1781(f), specifically limits the rights of mining claimants on CDCA lands. It states (emphasis added):

> Subject to valid existing rights, nothing in this Act shall affect the applicability of the United States mining laws on the public lands within the [CDCA], **except** that all mining claims located on public lands within the [CDCA] shall be subject to such reasonable regulations as the Secretary may prescribe to effectuate the purposes of this section. … Such regulations shall provide for such measures as may be reasonable **to protect the scenic, scientific, and environmental values of the public lands of the [CDCA] against undue impairment**, and to assure against pollution of the streams and waters within the [CDCA].

Thus, the BLM can only approve development of mining claims within the CDCA that do not represent "undue impairment" to these values. The BLM has yet to specifically promulgate the regulations noted in section 1781(f). Instead, BLM appears to rely on its generalized mining regulations adopted at 43 CFR Part 3809.[2] The guiding principle of the "3809 regulations" is to meet FLPMA's standard of preventing "unnecessary or undue degradation" for BLM land across the West.

However, and critical for this case, the generalized "unnecessary or undue degradation" standard in the 3809 regulations (as defined at 3809.0-5(k)) is different from FLPMA/CDCA's standard of "undue impairment." In other words, CDCA standards create a higher burden of protection on BLM decisionmaking. This distinction is specifically noted in the 3809 definition of "unnecessary or undue degradation," which is defined as:

> Surface disturbance greater than what would normally result when an activity is being accomplished by a prudent operator in usual, customary, and proficient operations of similar character and taking into consideration the effects of operations on other resources and land uses, including those resources and uses outside the area of operations. Failure

[2] Importantly, the authority of the Interior Department to impair the rights of mining claimants can be accomplished "by regulation or otherwise." §1732(b). Thus, the Department is authorized to meet its duties to protect CDCA lands via application of regulations or by a site-specific action, such as approval or rejection of a proposed plan of operations.

> to initiate and complete reasonable mitigation measures. including reclamation of disturbed areas or creation of a nuisance may constitute unnecessary or undue degradation. Failure to comply with applicable environmental protection statutes and regulations thereunder will constitute unnecessary or undue degradation. **Where specific statutory authority requires the attainment of a stated level of protection or reclamation, such as in the California Desert Conservation Area, ... *that level of protection shall be met.***

43 CFR 3809.0-5(k)(emphasis added).

The IBLA has affirmed that the 3809 definition, coupled with the fundamental FLPMA requirement to protect CDCA lands against "undue impairment" mandates a higher level of protection when deciding whether to approve or reject a proposed plan of operations. In Eric L Price, James C. Thomas, 116 IBLA 210, 218 (1990), the Board discussed the different standards of review:

> Section 601(f) of FLPMA required BLM to promulgate regulations which would provide for measures to protect the scenic, scientific, and environmental values of public lands of the CDCA against "undue impairment." The regulations actually promulgated by BLM do not define "undue impairment" as that term is used in section 601(f) of FLPMA, but simply provide, at 43 CFR 3809.0-5(k), that "that level of protection shall be met."

The Board went on to note that in adopting the 3809 regulations, the BLM specifically stated that:

> The final rulemaking includes provisions that will afford the area adequate protection.... The final rulemaking requires the filing of a plan of operations for any activity in the [CDCA] beyond that covered by casual use. **The plan would be evaluated to ensure protection against "undue impairment" and against pollution of the streams and waters of the area.**

Price, 116 IBLA at 218 (quoting 45 Fed. Reg. 78902, 78909 (Nov. 26, 1980))(emphasis added). The Board further highlighted how this statutory and regulatory structure created a higher duty of protection on CDCA lands:

> Under 43 CFR 3809.0-5(k), a plan of operations must take "into consideration the effects of operations on other resources and land uses, including those resources and uses outside the area of operations" (emphasis added). **Furthermore, a plan of operations affecting lands in the CDCA must take into consideration the specific objectives of section 601(f) of FLPMA, i.e., protecting the scenic, scientific, and environmental values of the affected lands against undue impairment, and to assure against pollution of affected streams and waters. As promulgated by BLM, the general standard contained in the definition of "unnecessary or undue degradation" is to be applied to CDCA lands in accordance with the imperatives of section 601(f) of FLPMA.**

Price, at 218-219(underline emphasis in original, bold emphasis added). Thus, only those plans of operation that "protect scenic, scientific, and environmental values of the affected lands against undue impairment" can be approved by the BLM. For the development of Glamis' claims, and as detailed in the DESI/EIR, the mining proposed in all action alternatives clearly fail to meet this standard.

It is important to note that in the Price case, the critical mining-specific IBLA case detailing the protective standards for CDCA lands, the IBLA affirmed the decision of this El Centro Resource Area to reject a proposed mining plan of operations on primarily undue visual impacts.[3] The Imperial Project will have destructive impacts far greater than the mine proposed in Price – by many orders of magnitude. At a minimum, the open pit method will violate the BLM's own Class II Visual Objectives as in Price. (DEIS/EIR at 4-99) More importantly, the Project will destroy irreplaceable archeological and Native American resources – a loss the DEIS/EIR admits can never be mitigated for. (DEIS/EIR at 4.1.6) In addition, the projected violation of the California air quality standard for 24-hour PM_{10}, as well as the admitted killing and/or taking of dozens of threatened desert tortoise, further highlights the nature of the damage caused by Glamis' chosen mine method.

Even under the less-protective "unnecessary or undue degradation" standard, the IBLA has affirmed BLM's authority to deny plans of operation: "If unnecessary or undue degradation cannot be prevented by mitigating measures, **BLM is required to deny approval of the plan.** 43 CFR 3809.0-3(b); Department of the Navy, 108 IBLA 334, 336 (1989). See 43 U.S.C. 1732(b); 43 CFR 3809.0-5(k)." Kendall's Concerned Area Residents, 129 IBLA 130, 140 (1994).

Overall, the determination of what constitutes "undue impairment" must be considered in light of the need to protect the other resources at and around the site. In an area with little extraordinary environmental and other values -- lands heavily impacted by previous mining for example -- even a new open pit mine may not be considered "undue impairment" since the critical values to protect (e.g., scenic, cultural, environmental) no longer exist to any great extent. In this case, however, the exact opposite is true. The project area is largely pristine with nationally-recognized Native American values and important threatened species habitat at stake.

Several leading commentators have affirmed this site-specific focus of the BLM's authority. Central to this case is the conclusion that the economic desires of an applicant are **not** the fundamental concern. Rather, the protection of the resource is paramount, and only those projects that are capable of operating without unduly damaging that resource can be permitted. As noted by Professor Mansfield:

> Activities that involve too great a sacrifice of collective values for too little societal gain should be considered "undue," even if they would provide a private party with a positive

[3] The fact that the Price case dealt with a mine nominally proposed in a class "C" CDCA area is largely irrelevant because the Board admitted that since the subject lands were never placed into Wilderness Study Area (WSA) status, the above-mentioned 3809 regulations, rather than the more-restrictive 3802 WSA regulations, applied.

economic return.[4] Thus, even those actions "necessary" to implement a private goal and employing the least damaging economically feasible method might create "undue" degradation.

Mansfield. *On the Cusp of Property Rights: Lessons from Public Land Law*, 18 Ecology Law Quarterly, 43, 83 (1991). Professor Mansfield's comments are even more applicable in this case since her statement dealt with the BLM's generalized duties to protect public land under FLPMA §1732(b)'s "unnecessary or undue" standard, rather than the more protective requirements of §1781(f).

The most recent, and comprehensive, review of BLM's authority to reject plans of operations that do not adequately protect surface resources notes that:

> [I]n extremely sensitive areas, the BLM would have the authority to impose any restrictive standards deemed necessary to protect the resource against "undue degradation," **even if such standards were not achievable through the use of existing technology.**

Graf, *Application of Takings Law to the Regulation of Unpatented Mining Claims*, 24 Ecology Law Quarterly, 57, 108 (1997)(emphasis added). Again, this review was based on the basic FLPMA standard, rather than the CDCA standard, and thus would be even more applicable in the present case's need to reject the destructive open pit mining method.

This overriding authority to protect sensitive resources was also affirmed in Interior Solicitor Leshy's seminal treatise, The Mining Law, A Study In Perpetual Motion 200-202 (Resources for the Future, 1987). For example, Solicitor Leshy noted that:

> In sum, the FLPMA land-use planning process ... should result in more systematic and localized consideration of the effect of Mining Law activities on other uses of the lands and on the environment. The end result may well be that restrictions on these activities in particular areas [such as the CDCA] may be more stringent than otherwise required by the bureau's generally applicable surface management regulations.

Id. at p. 202.

The IBLA has affirmed that the failure to meet FLPMA's requirements cannot be excused because of the financial desires or conditions of an operator. In commenting on a mining claimant's appeal from a BLM order of non-compliance, the IBLA noted that:

> [M]uch of appellants' discussion of their efforts to comply with the BLM and State

[4] This point was central to California Senator Barbara Boxer's January 27, 1998 letter to BLM Director Pat Shea on the Project: "I believe that this project threatens to do great harm to the land and people of the United States while offering little if any benefit to the people of California. I respectfully ask you to do everything within your power to halt this project."

6

requirements, and the defense of their inability to do more, merely emphasizes their lack of compliance due to financial difficulties.... Appellants have presented nothing with this appeal to persuade us that the BLM has erred in its finding of undue or unnecessary degradation of the Federal lands involved in this case, nor of the impropriety of the notice of noncompliance.

B.K. Lowndes, 113 IBLA 321, 326 (1990). Thus, Glamis' claims of financial burdens associated with less-destructive mining methods cannot be used to override BLM's duty under FLPMA to protect public lands, especially the sensitive CDCA lands.

004 **Requirements of the Desert Plan**

The California Desert Plan also requires that the BLM reject a plan of operations that cannot ensure protection of scenic, scientific, and environmental values. The Desert Plan was mandated by FLPMA section 1781(d), which set up a system by which environmental values were to be afforded a status at least equal to mineral development:

> [The Plan] shall take into account the principles of multiple use and sustained yield in providing for resource use and development including, but not limited to, maintenance of environmental quality, rights of way and mineral development....

The Plan itself states that: "multiple use, sustained yield, and the overall maintenance of environmental quality are the context for CDCA management, and all other public-land management laws must be viewed within this context, including the following: -- U.S. Mining Laws..." (Desert Plan at p. 5) Thus, unlike non-CDCA BLM lands, the "rights" afforded mining claimants are not paramount, as the Draft EIS/EIR improperly suggests. (DEIS/EIR at 1-12)

The Plan recognizes the inherent conflict between mining and maintenance of environmental quality. However, it specifically notes that, in attempting to resolve this conflict: "This means, in the face of unknowns, erring on the side of conservation in order not to risk today what we cannot replace tomorrow." (Desert Plan at p. 6) This is in line with the stated "Goal of the Plan":

> The goal of the Plan is to provide for the use of the public lands and resources of the [CDCA], including economic, educational, scientific, and recreational uses, in a manner which enhances wherever possible – **and which does not diminish, on balance** – the environmental, cultural, and aesthetic values of the Desert and its future productivity.

(Desert Plan at pp. 5-6)(emphasis added).

Thus, this Goal can only be met when uses such as mining "do not diminish, on balance" critical resources. The Plan allows **some** diminishment, but **only** on a no-net-loss basis (i.e., "on balance"). In this case, the DEIS/EIR admits that severe impacts to Native American and archeological resources cannot be mitigated – violating the no-net-loss requirement. While the BLM may adopt "mitigation" for other uses affected by the Project (although the Chapter disputes much of the legal and factual basis for this as noted herein), the fact that the impacts to

Native American and some other resources are unmitigateable mandates rejection of the Project.

The Imperial Project is proposed for public lands classified as "Limited Use, or L" under the California Desert Plan. As such, BLM management must be "oriented toward giving priority to the protection of sensitive natural, scenic, ecological and cultural resources while placing limitations on other uses which may conflict with these values." (DEIS at 1-13) The overriding management requirements for Class L lands are as follows:

> Multiple-Use Class L (Limited Use) protects sensitive, natural, scenic, ecological, and cultural resource values. Public lands designated as Class L are managed to provide for generally **lower-intensity, carefully controlled multiple use of resources, while ensuring that sensitive values are not significantly diminished.**

(Desert Plan at p. 13, emphasis added) Class L is in contrast with Class M (Moderate Use) which specifically recognizes mining as a use that only requires the BLM to "mitigate damage to those [desert] resources which permitted uses may cause." Id. Thus, in Class L lands, multiple uses such as mining can occur, but only at "lower-intensity, carefully controlled" levels which ensure that sensitive values "are not significantly diminished." Class M lands allow mining to occur at much higher use levels, requiring only that other resource damage be "mitigated."

For the Imperial Project, the DEIS/EIR admits that "significant" impacts to sensitive Native American cultural, archeological, historical, and religious values (among other critical resources) will occur, that these resources will be significantly diminished (if not outright destroyed), and in fact cannot be "mitigated." Only by requiring a lower-intensity mining method such as underground mining can such values potentially be protected – and likely not at all if there is surface disturbance affecting significant Native or other resources.[5] Unfortunately for Glamis, such a method may be "uneconomic" at current gold prices.

Also, any form of mining at the site is unacceptable to the Quechan Indians. The San Diego Chapter of the Sierra Club has adopted a similar position. The San Diego Chapter also supports the withdrawal of the area from mineral entry and expansion of the Indian Pass ACEC or designation of a larger area as a National Monument to protect archeological, cultural, and sacred sites for the benefit of present and future generations.

The DEIS/EIR, faced with this apparent contradiction, determined that Glamis' desire to develop its mining claims at current prices overrides BLM's duties to protect the other resources at the site. As noted above, this fundamentally violates FLPMA, the Desert Plan, and binding IBLA

---

[5] Other commentors have correctly noted that other less-destructive mining methods (such as the complete backfill alternative or off-site facility location) better meet this standard compared to the preferred alternative. The no-action alternative, however, is the only reviewed alternative that meets the FLPMA/CDCA standard of protection – particularly due to the unavoidable impacts to the Native American resources that would accompany any open pit method.

precedent.[6]

005 Glamis' Desire to Mine Profitably Under Current Market Conditions Does Not Override the BLM's Duties Under FLPMA and the CDCA Plan.

The fact that Glamis requested that its Project Purpose be defined as "profitably" developing the subject claims cannot be used to override BLM's requirements under FLPMA/CDCA. (DEIS/EIR at section 1.7) See also EPA's March 19, 1998, letter to BLM, Attachment at p. 1. It should be noted that even Glamis' stated Project Purpose requires that it be "in compliance with the CDCA Plan [and] FLPMA." (DEIS/EIR at 1-16) As noted above, the open pit method, indeed any of the reviewed action alternatives, cannot be in compliance with the Plan, nor FLPMA.[7]

It must be stressed that a requirement to delay mining until market prices or technology allow underground methods, and thus better comply with (but likely not fully meet) FLPMA/CDCA standards, could not be considered a "taking" of Glamis' "rights." The Ninth Circuit has made it clear that claims of economic hardship by a mining applicant do not suffice to invalidate a federal land agency's requirements imposed to protect the environment. Clouser v. Espy, 42 F.3d 1522 (1994). Thus, the fact that the underground mining alternative may not be economically advantageous to Glamis cannot override the agency's obligation to protect public land surface resources.

In Clouser, the Court upheld the Forest Service's requirement that mining claims be accessed only with pack mules – a restriction the mining claimants argued would render their operations, and their claims, uneconomic. In a far-reaching decision, the Court held that:

---

[6] The BLM's reliance on the Plan's mention that "mitigation, subject to technical and economic feasibility, will be required" (DEIS/EIR at 1-14) cannot be used to override the controlling mandate to manage Class L lands for "lower-intensity" mining methods. First, such "mitigation" assumes that the basic use is acceptable and does not represent "undue impairment" -- clearly not the case with open pit mining. Secondly, as noted in the Plan, any conflict between provisions of the Plan are to be resolved "erring on the side of conservation" and must be interpreted to meet the Plan's Goal "to provide for the use of the public lands and resources of the [CDCA], including economic, educational, scientific, and recreational uses, in a manner which enhances wherever possible – and which does not diminish, on balance – the environmental, cultural, and aesthetic values of the Desert and its future productivity." (i.e., no-net-loss).

[7] Interestingly, even Glamis' and BLM's preferred alternative would fail to achieve profitability at current gold prices. According to Glamis' public information, "The preliminary feasibility study [for the Imperial Project] indicates a profitable operation at $400 per ounce of gold." (www.glamis.com) (documents submitted with previous Chapter comments and which are hereby incorporated by reference herein). Thus, even the current project would not meet the Project Purpose. Under BLM's view, this alternative must be rejected as well. At a minimum, the failure of the DEIS/EIR to discuss this issue fatally flaws the analysis, especially the alternatives analysis.

> Virtually all forms of [agency] regulation of mining claims – **for instance, limiting the permissible methods of mining and prospecting in order to reduce environmental damage** – will result in increased operating costs, and thereby will affect claim validity....

Id. at 1530 (emphasis added). Thus, it is clear that an agency's land protection mandate is not subordinate to the economic desires of the mining claimant. The Ninth Circuit had affirmed the federal District Court's decision that limiting particular mining methods even to the point of an adverse effect on claim validity was proper: "[T]o the extent that the [agency's] actions have an indirect effect on plaintiffs' "rights" under their mining claims, I find nothing in the statutes to prevent this...." Clouser v. Madigan, 1992 WL 694368, *4 (D.Or. 1992).[8]

This view was affirmed by the most recent state court decision that has faced the issue of environmental regulation vis-à-vis mining claims. An Oregon state court noted that:

> [P]laintiff's unpatented mining claim is conditioned upon compliance with authorized and applicable federal and state regulations. ... I conclude that whether a discovery is valuable depends on the cost of complying with applicable regulations.... In this case, the state's [environmental] regulations make plaintiff's predecessors' discovery far from valuable, "thereby extinguishing the 'property interest' necessary to bring a Fifth Amendment action." Graf at 113.

Kinross Copper v. State of Oregon, (Case No. 9609-06900, Circuit Court, County of Multnomah, June 9, 1997, at p. 2). The court adopted the views of the extensive legal commentary by Thomas Graf cited above for the holding that, due to the overriding nature of environmental regulations that could render a claim invalid, an unpatented mining claim is "a property interest which is *not* subject to constitutional takings protection." Kinross at p. 2 (emphasis in original).

The IBLA has ruled that since **each** claim must contain a valuable mineral deposit, "the recovery expected from each claim must not only exceed the costs of mining, transporting, milling, and marketing the particular deposit on that claim but each claim must also bear a proportionate share of the development and capital costs attributable to the combined operation." U.S. v. Collard, 128 IBLA 266, 287-288 (1994).[9]

---

[8] The fact that Clouser arose on Forest Service land is largely irrelevant to this case since, as noted above, the protective requirements applicable to the CDCA Class L lands are certainly more protective than the relevant Forest Service regulatory regime for Forest Service lands (largely since the Courts held that the non-motorized access requirements were properly applied to wilderness **and** non-wilderness lands alike).

[9] The Supreme Court has endorsed at least two tests for determining whether a claim qualifies as a "valuable mineral deposit" under 30 U.S.C. §22. Under the marketability test, it must be shown that the mineral can be "extracted, removed and marketed at a profit." United States v. Coleman, 390 U.S. 599, 600 (1968). According to the prudent-man test, "the discovered deposits must be of such a character that a person of ordinary prudence would be justified in the further

In this case, Glamis argues that mining is commercially impracticable if it is forced to comply with the FLPMA/CDCA requirements protecting surface resources. The answer to that argument is simple; if mining is commercially impracticable under existing regulations, then the mining claims are not valid – precluding a "takings" claim. While **valid** unpatented mining claims cannot be taken for public use without just compensation, the U.S. Constitution does not require compensation to be paid for divestment of an **invalid** mining claim. U.S. v. Bagwell, 961 F.2d 1450 (9th Cir. 1992); Skaw v. U.S., 13 Cl.Ct. 7 (1987), aff'd, 847 F.2d 842 (Fed. Cir. 1988), cert. denied, 488 U.S. 854 (1988).

II. The Interior Department Should Undertake a Validity Review of Glamis' Mining Claims

006 *The BLM Should Not Approve the Plan of Operations Without Some Demonstration That All Claims Are Valid*

Without the "discovery" of a "valuable mineral deposit," Glamis has no rights at all to the project lands. As noted above, any such rights exist "so long as they comply with the laws of the United States, and with State, territorial, and local regulations...." 30 U.S.C. 26. Since it is clear from the DEIS/EIR that the open pit mine as currently proposed cannot comply with FLPMA/CDCA requirements, the validity of Glamis' claims are in doubt.

It appears that the BLM has assumed the Glamis' claims are "valid" under federal law. However, BLM has not undertaken any review to support this assumption. This assumption forms the basis for the BLM's improper rejection of the No-Action Alternative and its choice of the preferred alternative. (See comments below.)

Unfortunately, this assumption is incorrect on the facts and the law. The BLM cannot presume that the filing of a mining claim means that the claim is valid (i.e., that the "rights" relied upon by the DEIS/EIR are indeed rights at all). A mining claim location does not give the presumption of a discovery. Ranchers Exploration and Development Co. v. Anaconda, 248 F.Supp. 708, 714 (D.Utah 1965). As the Supreme Court has held: "[L]ocation is the act or series of acts whereby the boundaries of the claim are marked, etc., but it confers no right in the absence of discovery, both being essential to a valid claim." Cole v. Ralph, 252 U.S. 286, 294-96 (1920).

That "rights" to develop federal land do not arise without a discovery of a valuable deposit is also the established rule of the Interior Department:

---

expenditure of his labors and means, with a reasonable prospect of success, in developing a valuable mine." Id. at 602.

The Department of the Interior, which determines the validity of mining claims, i.e. whether an applicant has discovered a valuable mineral deposit, requires that the costs of compliance with environmental regulations be factored into a validity determination. United States v. Pittsburgh Pacific, 30 IBLA 388 (1977); Leshy, *The Mining Law*. (Resources for the Future. 1987); United States v. Kosanke Sand Corporation, 80 IBLA 538, 546-547 (1973).

11

The essential conclusion that a mining claim cannot be valid without a discovery has been restated by the courts as well as the Department. "Discovery is the *sine quo non* of an entry to initiate vested rights against the United States." Davis v. Nelson, 329 F.2d 840, 845 (9th Cir. 1964); "... that discovery is the prerequisite to the validity of a mining claim cannot be disputed." Fresh v. Udall, 228 F.Supp. 738, 740 (D. Colo. 1964).

U.S. v. Bartels, 6 IBLA 126, 127 (1972). "[T]he mere fact of location of a mining claim does not establish the mineral character of the land." Bobby L. Franklin, 116 IBLA 29 (1990); Nancy M. Swallow, 112 IBLA 321. 323 (1990) (accord).

As noted above, there is substantial question as to whether the subject mineral deposits can be profitably developed. Glamis' admits that gold prices must reach $400 an ounce to achieve profitability – something not likely to occur in the near (or far) future. See Mineral Policy Center, Down to Earth: The Falling Price of Gold Exposes Environmental Cost of Mining (1997) (attached).

It must be stressed that any argument by the BLM that a discussion of claim validity is beyond the scope of the DEIS/EIR would violate the Administrative Procedure Act (APA). Clearly, a document so fundamentally based on an incorrect and unsupportable position is arbitrary and capricious, an abuse of discretion, without observance of procedure required by law, not in accordance with law, and not supported by the facts. 5 U.S.C. 706(2).

Since the federal government may review and challenge the validity of any mining claim at any time, Cameron v. U.S., 252 U.S. 450 (1920), it must inquire into these issues at the outset as part of its NEPA and FLPMA review processes. "So long as the legal title remains in the government, the Secretary has the power and duty upon proper notice and hearing to determine whether the claim is valid." Independence Mining Co. v. Babbitt, 885 F.Supp. 1356, 1359 (D.Nevada 1995), aff'd 105 F.3d 502.

This is not a case where the issue of claim validity would be a needless exercise. For example, if the value of the mineral deposit on federal land far outweighed the costs to extract, market, process, transport, and meet environmental requirements (i.e., a valuable mineral deposit was discovered), then it might not make sense for the agency to go through the validity determination. However, in this case, the evidence is clear that even under the preferred alternative, the project is uneconomic. In addition, and as mentioned above, full compliance with FLPMA/CDCA requirements further call into question the claim validity.

007 *Glamis and the BLM Admit That the Vast Majority of Mining Claims at the Site Do Not Contain Valuable Mineral Deposits*

There are essentially two types of mining claims at issue at the site. The first set of claims are those covering the actual ore body to be mined. The second, and more numerous, set of claims are those that are proposed to be utilized for the waste rock dumps, heap leach facility, and other non-extraction activities. Even if we assume that the first set of claims, the ones covering the pit,

contain valuable mineral deposits (which the Chapter believes is not the case), the second set clearly do not contain valuable mineral deposits.

It appears that the applicant has filed mining claims on the non-ore body locations to avoid the strict limitations on millsite claims under the Mining Law of 1872. 30 U.S.C. § 42. That statute prohibits the location or use of millsite claims that exceed the number of associated mining claims being developed. In addition, millsite claims are limited to a maximum of only five acres each, compared to 20 acres for mining claims. Thus, the amount of acreage that can be covered by a similar number of millsite claims is roughly 1/4 the acreage covered by the associated mining claims. See November 7, 1997 Memorandum entitled "Limitations on Patenting Millsites under the Mining Law of 1872" from Interior Solicitor Leshy to the Director of the BLM (with concurrence by Secretary Babbitt on November 12, 1997).

In this case, the applicant blanketed the area with mining claims, instead of filing a mixture of mining and millsite claims as intended by the 1872 Law. Although under the Surface Resources Act of 1955 a person may use mining claims for non-extractive uses related to the extraction (i.e., waste disposal, processing, etc.), such an allowance **does not** override the basic requirement that a discovery of a valuable mineral deposit must be found on each and every claim.

There is absolutely no evidence in the record that Glamis Imperial has discovered valuable mineral deposits on the mining claims covering the waste dumps, heap leach facility, etc. Indeed, they appear to have been filed as mining claims primarily to avoid the limitations on millsite claims. As such, the BLM cannot approve activities on those lands.

The DEIS/EIR admits that the mining claims covering the areas beyond the pit do not contain valuable mineral deposits:

> Condemnation drilling by Glamis Imperial geologists has been used to determine the limits of the gold ore bodies within the Project mine and process area. The results of this drilling, to date, indicate that **valuable mineral resources common to the Project mine and process area do not exist in the areas of the proposed heap pad, waste rock stockpiles, and the process and ancillary facilities.** ***Therefore, no potentially valuable mineralization would be buried by the placement of these facilities in these areas.***

DEIS/EIR at p. 4-4 (emphasis added). Thus, as acknowledged by Glamis' own admissions, any argument that the so-called mining claims outside the pit area are valid is entirely without merit. The BLM cannot approve a plan of operations based on the overwhelming evidence that the subject mining claims do not contain valuable minerals.

At a minimum, the BLM should undertake a review of the validity of these claims prior to proceeding with the FLPMA and NEPA process. Since it is acknowledged that these mining claims are not valid, Glamis Imperial could refile the claims as millsite claims. Of course, such filing must adhere to the 1872 Law's strict limitations on millsite claims noted above.

As a practical matter, since it is clear that the number of claims utilized for the waste dumps,

heap leach facility and other such activities, if filed as millsite claims as they should be, would far exceed the number of mining claims covering the ore body, Glamis Imperial would have to revise its proposed Plan of Operations to "fit" its operations onto the millsite claims. As noted herein, this scenario of proper adherence to the 1872 Law's claim and acreage limitations should be reviewed as a separate alternative. Indeed, "the Bureau [BLM] should not approve plans of operations which rely on a greater number of millsites than the number of associated claims being developed unless the use of additional lands is obtained through other means." Leshy/Babbitt Millsite Memorandum (Nov. 1997) at p. 2.

The BLM's Manual governing the preparation and review of Mineral Reports, Manual 3060, specifically authorizes mining claim validity examinations and contests "when such action is deemed to be in the public's interest." 3060.12. If such a review was ever warranted in the "public interest," this is it.

008 **III. The Proposed Project's Violation of Environmental Requirements Further Requires BLM to Reject It**

The BLM cannot approve a plan of operations that may violate federal, state, or local environmental protection laws, regulations, or standards. 43 CFR 3809.2-2. In this case, the DEIS/EIR admits that the preferred alternative would "take" dozens of threatened desert tortoises, a likely violation of the Endangered Species Act (ESA) and 3809.2-2(d), and violate California air quality standards for PM_{10}, among other impacts (see other Chapter comments for a more complete description of the environmental impacts). As such, the BLM must reject the proposed project.

009 **The BLM Cannot Approve a Project That Adversely Affects Threatened Species or Their Habitat**

The DEIS/EIR admits that the "effects of the Project on desert tortoise are considered significant," even with the proposed mitigation. DEIS/EIR at 4-56. Up to 57 individuals that currently live at the site may be killed. Id. BLM regulations require that:

> The operator shall take such action as may be needed to **prevent adverse impacts** to threatened and endangered species, and their habitat which may be affected by operations.

3809.2-2(d)(emphasis added). The proposed project (i.e., the preferred alternative), as well as the reviewed action alternatives (East and West Pit Alternatives), would violate this requirement. As such, the BLM must reject the proposed plan of operations.

This requirement to "prevent adverse impacts" is separate and independent from BLM's duty to consult with the U.S. Fish and Wildlife Service (FWS) under the ESA. Thus, even if the FWS were to issue a "no jeopardy opinion" for the desert tortoise, the BLM's 3809 regulations require

an extra level of protection. In other words, "no jeopardy" does not equal "no adverse impacts." Regardless of whether the Project will result in jeopardy to the continued existence of the species (i.e., to be determined by the FWS), it could still have, and definitely will have, unavoidable "adverse impacts" to the species.

Federal courts have determined that the presence of a species protected under the ESA that will be adversely affected by a proposed project *per se* means that the proposed plan of operations may be unreasonable:

> Of course, the [federal land agency] would have the authority to deny an unreasonable plan of operations, or a plan otherwise prohibited by law. E.g., (endangered species located at the mine site.).

Havasupai Tribe v. United States, 752 F.Supp. 1471, 1492 (D. Ariz. 1990), aff'd 943 F.2d 32 (9th Cir. 1991), cert. denied, 503 U.S. 959 (citations omitted).

In this case, the proposed project and action alternatives could not mitigate the adverse impact to the point where it is no longer an impact. Thus, since such impact cannot be "prevented," the plan of operations must be rejected.

010 **The Mine's Projected Violation of the California PM_{10} Air Quality Standard Mandates BLM's Rejection of the Plan of Operations**

The DEIS/EIR admits that "the Project would contribute to exceedences of the 24-hour CAAQS for PM_{10} which may continue to occur in the future during periods of high wind." DEIS/EIR at S-26. This would occur even when the proposed mitigation measures would be implemented (road watering, etc.). BLM regulations require that: "All operators shall comply with applicable Federal and State air quality standards, including the Clean Air Act (42 U.S.C. 1857 *et seq.*)." 43 CFR 3809.2-2(a).

This acknowledged violation of the CAAQS mandates BLM rejection of the plan of operations. In addition, it appears from the DESI/EIR that even this PM_{10} problem will likely be much worse than the DEIS/EIR admits. For example, the violation of the CAAQS level of 50 ug/m^3 is projected based on average background ambient conditions. According to the DEIS/EIR, the total emissions from the Project, when added to the arithmetic mean for background levels, would be 49.73 ug/m^3.[10] Thus, since one can assume that the "average" will be exceeded

[10] The DEIS/EIR fails to explain why the higher recorded background PM_{10} figure for the nearby Mesquite Mine (19.9 ug/m^3), compared to the lower 19.0 figure for the American Girl site, was not used as a basis for the calculation. Since using the Mesquite figures would produce a total emissions figure for the Imperial Project of over 50 ug/m^3, it appears that the American Girl figures were chosen to produce an acceptable number (although as noted above, even that number would result in significant air quality violations). This obvious attempt at misleading the public cannot be tolerated and violates NEPA's mandate for accurate public disclosure. The fact that the American Girl Mine may be closer as the crow flies (although just a very short distance

15

roughly 50% of the time, the Project emissions would violate the 50ug/m3 approximately 50% of the time.

Even this number appears to be overly optimistic and actual conditions point to a much higher total emission level. For example, the modeling used for the Project emission figures assumes a **98%** efficiency factor for the PM_{10} mitigation measures. (e.g., Appendices B and C to DEIS/EIR Appendix O). Any modeling results using a lower efficiency rate would produce substantially higher outputs for PM_{10}. Despite the critical nature of this input (the 98% figure), there is no support given to warrant such an optimistic prediction.[11] As noted throughout the DEIS/EIR, the Project site is in an extremely arid environment with severe evaporation rates. The 98% figure would be optimistic even in a humid environment.

This figure is called into question by the DEIS/EIR itself. For example, the BLM admits that "PM_{10} monitoring at the [nearby] Mesquite Mine during 1991 indicated that the 24-hour CAAQS for PM_{10} was likely exceeded a total of **27 days** that year." DEIS/EIR at Appendix O, p. 13, emphasis added). Since the mitigation measures for PM_{10} at the Mesquite Mine are likely very similar to the mitigation measures proposed for the Imperial Project (i.e., road watering, chemical surficants), and since those mitigation measures still resulted in significant air quality violations, how can the BLM justify such an overly optimistic mitigation efficiency figure?

As ruled by the Ninth Circuit Court of Appeals in a major NEPA decision issued just last month, such unsupported analysis violates NEPA:

> The [agency's] perfunctory description of mitigation measures is inconsistent with the "hard look" it is required to render under NEPA. "Mitigation must be discussed in sufficient detail to ensure that environmental consequences have been fairly evaluated." Carmel-By-The-Sea v. Dept. of Transportation, 123 F.3d 1142, 1154 (9th Cir. 1997) (quoting Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 353 (1989)). "A mere listing of mitigation measures is insufficient to qualify as the reasoned discussion required by NEPA." Northwest Indian Cemetery Protective Association v. Peterson, 795 F.2d 688, 697 (9th Cir. 1986), rev'd on other grounds, 485 U.S. 439 (1988).
>
> It is also not clear whether any mitigating measures would in fact be adopted. Nor has the [agency] provided an estimate of how effective the mitigation measures would be if adopted, or given a reasoned explanation as to why such an estimate is not possible. … The [agency's] broad generalizations and vague references to mitigation measures … do

---

closer), cannot be used to justify ignoring the Mesquite figures. This is primarily due to the fact that the prevailing westerly winds blowing from the Mesquite Mine area in the general direction towards the Imperial Project makes those figures more appropriate to real-world conditions.

[11] For example, in the air quality analysis submitted to the BLM for the proposed Yarnell Gold Mine near Yarnell, Arizona, a figure of 90% for the efficiency of the same mitigation measures was used to estimate PM_{10} emissions (materials available from the Arizona BLM and incorporated by reference herein)(attached). For the Imperial Project, the BLM cannot justify using the overly optimistic 98% efficiency figure.

16

not constitute the detail as to mitigation measures that would be undertaken, and their effectiveness, that the [agency] is required to provide.

Neighbors of Cuddy Mountain v. U.S. Forest Service, (No. 97-35654, 9th Cir., March 4, 1998, 1998 WL 89069, *7-8). It should be noted that these requirements are also applicable to other similarly untested and unproven "mitigations" noted in the DEIS/EIR. See, Supplemental Chapter comments submitted under separate cover; EPA March 19, 1998, letter.

At a minimum, the revised DEIS/EIR should detail the success rate of the PM_{10} miitgation measures at the Mesquite Mine, and other California desert mines (e.g., Briggs, Picacho, American Girl), before it can base its air quality assessment on such optimistic figures. Also, the BLM should correlate the pre-project predictions for the Mesquite Mine regarding estimated PM_{10} with the actual monitored results. If the pre-project prediction of "no violations" was based on similar "mitigations," which is extremely likely, and due to the violations at that site, it is clear that similar optimistic predictions for the Imperial Project cannot be substantiated.

The modeling assumptions for PM_{10} also incorrectly uses the emissions expected "during Project Year 2, which is the first full year of full operations of all major Project components...." Id. at p. 26. Although Year 2 may be the first full year of Project operations, it likely will not be the year of **maximum** PM_{10} emissions. That will likely occur during the last year of full operations when the East Pit is being excavated, the other pits have not been fully backfilled, the waste rock dumps are larger, the leach pad is larger, the road network is larger, and full operations are ongoing. Any modeling and eventual BLM predictions and analysis must be redone using this maximum emission scenario.

Furthermore, the DEIS/EIR incorrectly eliminated "off-site emissions" associated with the Project from its air analysis and modeling. (DEIS/EIR Appendix O at pp. 25-26) Of particular concern is the lack of consideration of PM_{10} emissions from Project truck traffic along Indian Pass Road, a non-paved gravel road. The DEIS/EIR dismisses these emissions from consideration as "minimal" without any analysis. Clearly, the Imperial Project will involve substantial traffic along Indian Pass Road on a daily basis from mine workers, material supply deliveries, etc. – with more than a minimal impact.[12] At a minimum, the failure to consider these Project-related impacts violates NEPA as well as rendering the optimistic air quality conclusions unsupportable.

Overall, the Imperial Project cannot be approved as proposed. At a minimum, the DEIS/EIR must be redone to present a more accurate picture of likely environmental impacts.

[12] The fact that BLM approval is required for such use of the Road means that these impacts are not truly "off-site" since they are directly related to the Project. The impacts from the Project are not generated solely within the narrowly-drawn project permit boundary.

17

IV. The Proposed Project Violates Laws and Policies Designed to Protect the Interests of Native Americans

011 *Violation of Trust Responsibility*

The Imperial Project's complete obliteration of lands and other resources central to the religion, culture and history of the Quechan Indians alone warrants rejection of the proposed project. As noted above, under FLPMA and the CDCA Plan, the BLM cannot approve a plan of operations that so significantly impacts, in this case destroys, so many irreplaceable resources. This section of the comments presents additional grounds for plan rejection.

Long standing federal law holds that Indian Tribes are sovereign nations. Worcester v. Georgia, 31 U.S. 544 (1832). It is undisputed that the BLM, as an agency of the federal government, has broad fiduciary obligations to Indian Tribes akin to that of a guardian to a ward. Seminole Nation v. U.S., 316 U.S. 286, 296-97 (1942). Any federal action is subject to this trust reponsibility. Nance v. EPA, 645 F.2d 701, 711 (9th Cir. 1981).

The Ninth Circuit has interpreted the government's trust obligation to Indian tribes "to extend to any federal government action." Nance v. EPA, 645 F.2d 701, 711 (9th Cir.1981), cert. denied, 454 U.S. 1081, 102 S. Ct. 635 (1981); see also Pyramid Lake Paiute Tribe of Indians v. United States Dep't of the Navy, 898 F.2d 1410, 1420 (9th Cir. 1990). "[A] federal agency's trust obligation to a tribe extends to actions it takes off a reservation that uniquely impact tribal members or property on a reservation." Northern Cheyenne Tribe v. Hodel, 12 Indian L. Rep. 3065, 3071 (D. Mont. May 28, 1985). The Imperial Project is a perfect example of the type of government action which triggers the BLM's trust obligation to the Tribes potentially affected by the expansion. This includes the Quechan as well as the other affected lower Colorado River area tribes.

The Project's impacts trigger the BLM's trust obligation to the Tribes. Pyramid Lake Paiute Tribe of Indians v. Morton, 354 F. Supp. 252, 256 (D.D.C.) (finding duty to protect reservation water resources), mod. on other grds, 360 F. Supp. 669 (D.D.C.1973), rev'd in part on other grds, 499 F.2d 1095 (D.C. Cir.1974), cert. denied, 420 U.S. 962 (1975); Fort Mojave Indian Tribe v. United States, 23 Cl. Ct. 417, 425-26 (1991) (finding duty to protect reservation water rights); Northern Cheyenne Tribe v. Hodel, 12 Indian L. Rep. 3065, 3071-72 (D. Mont., May 28, 1985) (relying on the trust doctrine as a basis for enjoining a government lease of public lands because of the harmful consequences to a tribe's culture and traditional way of life on a nearby reservation), remedy modified, No. 82-116-BLG (D. Mont.Oct 8, 1985), modified remedy rev'd, 851 F.2d 1152 (9th Cir. 1988).

The BLM's trust obligation requires it to meet certain standards in deciding whether to approve the plan of operations. The United States, acting through the Secretary of the Interior, "has charged itself with moral obligations of the highest responsibility and trust. Its conduct, as disclosed in the acts of those who represent it in dealings with the Indians, should therefore be judged by the most exacting fiduciary standards." Pyramid Lake Paiute Tribe of Indians v.

Morton, 354 F. Supp at 256 (quoting Seminole Nation v. United States, 316 U.S. 286, 297, 62 S. Ct. 1049, 1054 (1942); and citing Navajo Tribe of Indians v. United States, 364 F.2d 320, 176 Ct. Cl. 502 (1966)).

These standards include a substantive component requiring federal agencies to protect tribal interests when undertaking any action.

> Once a trust relationship is established, the Secretary is obligated, at the very least, to investigate and consider the impacts of his action upon a potentially affected Indian tribe. If the result of this analysis forecasts deleterious impacts, the Secretary must consider and implement measures to mitigate these impacts if possible. To conclude that the Secretary s obligations are any less than this would be to render the trust responsibility a pro forma concept absolutely lacking in substance.

Northern Cheyenne Tribe. v. Hodel, 12 Indian L. Rep. at 3074. "Moreover, the federal government has a substantive duty to protect 'to the fullest extent possible' the Tribes treaty rights, and the resources on which those rights depend." Klamath Tribes v. United States, Civ. No. 96-381-HA (D. Or. Oct. 2, 1996).

As a component of federal law, the trust responsibility, like FLPMA/CDCA requirements, overrides the purely economic consideration of the applicant. As noted above, the BLM can only approve a plan of operations that complies with federal law. Since it is clear that the BLM's trust responsibility would be violated by the preferred alternative (or any of the reviewed action alternatives), the proposed Project cannot be approved.

It should be noted that trust obligations are not met by mere adherence to other applicable federal laws. See Pyramid Lake Paiute Tribe of Indians v. United States Dep't of the Navy, 898 F.2d at 1420-21 (recognizing trust duty to protect endangered fish upon which tribe relies independent of Endangered Species Act protection); Jicarilla Apache Tribe v. Supron Energy Corp., 782 F.2d 855, 857-59 (10th Cir.) (en banc) (holding Secretary to fiduciary duty exceeding regulatory requirements in mineral lease administration), cert. denied, 479 U.S. 970 (1986); Nance v. EPA, 645 F.2d at 710-11 (in designating airshed quality under Clean Air Act, government owes trust responsibility to the tribe beyond statutory and regulatory obligations owed to general public); Northern Cheyenne Tribe v. Hodel, 12 Indian L. Rep. at 3071 (government has fiduciary responsibility to consider needs of tribe in issuing coal leases on public lands adjacent to reservation; "ignoring the special needs of the tribe and treating the Northern Cheyenne like merely citizens of the affected area . . . violated this trust responsibility"). The BLM's trust duty is separate from (but complements) its duties under NEPA and FLPMA, and is an enforceable fiduciary duty that exists despite the absence of express statutory trust language. Northern Cheyenne Tribe v. Hodel, 12 Indian L. Rep. at 3071, 3074.

012 *Religious Freedom Restoration Act and American Indian Religious Freedom Act:*

Under the Religious Freedom Restoration Act (RFRA), governments must not impose a substantial burden on the free exercise of religion, absent a compelling interest. 42 U.S.C. §§ 2000bb(3), (4). The BLM would violate RFRA by approving the proposed plan of operations on and near sites which are sacred to the Quechan and other Indians. The BLM has shown no compelling interest which would justify a violation of the free exercise of religion by tribal members. Even if the government can demonstrate a substantial compelling interest, it must employ the least restrictive means to further that interest. 42 U.S.C. § 2000bb-1(b)(2). By not taking into account tribal religious needs through the permitting and NEPA processes, the BLM has violated 42 U.S.C. § 2000bb-1(b)(2).

The Tribes' traditional cultural practices are a part of their religion. See 42 U.S.C. § 1996 (American Indian Religious Freedom Act, AIRFA, protects Indians' access to sites and practice of traditional ceremonies as elements of Indians' "traditional religions"). The destruction caused by the open pit mining method certainly constitutes a "substantial [ ] burden" on the Tribes' exercise of their religion, and therefore is a violation of RFRA. See 42 U.S.C. § 2000bb-1. BLM has violated RFRA and, in doing so, has violated its trust responsibility to protect and preserve the Tribes' interest to the fullest extent possible.

Regarding the AIRFA, "An agency undertaking a land use project will be in compliance with AIRFA if, in the decisionmaking process, it obtains and considers the views of Indian leaders, and if, in project implementation, **it avoids unnecessary interference with Indian religious practices**." Wilson v. Block, 708 F.2d 735, 747 (D.C. Cir. 1983)(emphasis added).

Clearly, the preferred and other action alternatives constitute the "unnecessary intereference" Prohibited by AIFRA. As such, the BLM must reject these alternatives.

013 *Executive Order No. 13007 and Department Manual 512*

In addition to Constitutional and statutory requirements, the BLM is bound to follow Executive branch directives from the President and Secretary. For example, President Clinton's Executive Order 13007 signed on May 24, 1996 entitled "Indian Sacred Sites," requires all federal agencies to: "(1) accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners and (2) avoid adversely affecting the physical integrity of such sacred sites."

This strict requirement can only be violated if such protection, etc., is "clearly inconsistent with essential agency functions." In this case, and as noted above, the BLM's rejection of a mining plan that permanently destroys Indian sacred sites such as those found in the project area would **not** be "inconsistent" with its duties under FLPMA and other requirements. As such, under Executive Order 13007, any alternative that destroys such sites cannot be approved.

This Executive Order formed the basis for Interior Department Manual 512, Chapter 3, which reiterates the President's directive to the BLM "to avoid adversely affecting the physical integrity of such sacred sites." Manual 512, Chapter 3.2. Chapter 3.4 further details the requirements for

sacred site protections. As with the BLM's compliance with the Executive Order, the BLM's duty to comply with its Manual require the rejection of alternatives that would irreparably destroy the sacred sites at risk from the Imperial Project. See also, March 9, 1998, Information Bulletin No. CA-98-37 issued by California BLM State Director Ed Hastey, Re: Sacred Sites.

014 *Failure to Consult with Other Affected Indian Tribes Fatally Flaws the DEIS/EIR*

Although the BLM appears to have satisfactorily consulted with the Quechan Indian Tribe, it appears that the other affected Indian Tribes, particularly those along the lower Colorado River, have not been adequately consulted, or consulted at all, by the BLM. Federally-recognized Indian Tribes are automatically entitled to government-to-government relations. To reiterate and clarify this relationship between the federal government and Indian tribes, President Clinton issued a well-publicized Executive Memorandum on April 29, 1994, instructing executive departments and agencies, including their component bureaus and offices, as to their relations with Indian tribal governments. The memorandum reiterated existing U.S. policy:

> The purpose of these principles is to clarify our responsibility to ensure that the Federal Government operates within a government-to-government relationship with federally-recognized Native American Tribes.

The President's memo further instructs that:

> [e]ach executive department and agency shall consult, to the greatest extent practicable and to the extent permitted by law, with tribal governments prior to taking actions that affect federally-recognized tribal governments.

Memorandum for the Heads of Executive Departments and Agencies. Subject: Government-to Government Relations with Native American Tribal Governments (April 29, 1994), 59 Fed. Reg. 22951. See also, Executive Order 13007, "Sacred Sites."

The BLM cannot sidestep this requirement by consulting with only one federally-recognized Tribe. Clearly, the failure of the BLM to obtain the input of all potentially-affected Tribal Governments demonstrates its failure to comply with the letter and spirit of the requirements of these regulations and policy.

In addition, under the American Indian Religious Freedom Act, 42 U.S.C. § 1996 (AIRFA), the United States must:

> protect and preserve for American Indians their inherent right to freedom to believe, express, and exercise the traditional religions of the American Indian...including, but not limited to access to sites, use and possession of sacred objects, and the freedom to worship through ceremonials and traditional rites.

In order to comply with the Act, federal agencies must, in the decision-making process, obtain and consider views of Indian leaders before undertaking a land use project. Wilson v. Block, 708

F2d 735 (D.C.Cir. 1983). The failure to consult with all affected Native Tribes constitutes a violation of AIRFA.

The lack of consultation also violates the National Historic Preservation Act (16 U.S.C. 470), in which Congress declared that the nation's cultural foundations were being threatened by, among other things, commercial and industrial development. In order to preserve significant, irreplaceable, historic properties, Congress required the federal government to do more to protect these vital resources. The 36 CFR Part 800 regulations require consultation with affected tribes on any federal "undertaking" such as a Plan of Operations approval. In Attakai v. United States, 746 F. Supp. 1395 (D. Ariz. 1990), the court enjoined the Bureau of Indian Affairs from proceeding with construction of range improvements because the agency had neglected to comply with NHPA procedures. Despite the fact that the BIA had undertaken archeological surveys and mitigated some impact to historic properties, the agency had not consulted with affected tribes. The court specifically rejected the BIA's substantial compliance defense, holding that the procedures violated the letter and spirit of the regulations. Id. at 1405-1409. See also McMillan Park Comm. v. NCPC, 759 F.Supp. 908 (D.D.C. 1991).

In this case, all of the potentially affected Tribal Governments were not adequately consulted, if they were consulted at all. The Tenth Circuit has ruled that the lack of proper consultation requires the rejection of the agency's project approval. Pueblo of Sandia v. U.S., 50 F.3d 856 (10th Cir. 1995) (letters of inquiry to affected Tribes not deemed to be adequate consultation).

The DEIS/EIR scarcely mentions, let alone considers, the rights and interests of other Native American Tribes in this project. As noted above, it is undisputed that the BLM, as an agency of the federal government, has broad fiduciary obligations to Indian Tribes akin to that of a guardian to a ward. Seminole Nation v. U.S., 316 U.S. 286, 296-97 (1942). Any federal action is subject to this trust responsibility. Nance v. EPA, 645 F.2d 701, 711 (9th Cir. 1981).

In this case, the failure to address the other Tribes' interests in, and uses of, the land to be impacted is a fatal flaw in the DEIS/ROD. Northern Cheyenne Tribe v. Hodel, No. CV 82-166-BLG, 12 Indian Law Reporter 3065 (D. Mont. 1985)(voiding major coal leases for failure to meaningfully consider tribal rights in the EIS).

The lack of consultation with all other affected Tribes also violates the BLM's Manual section titled General Procedural Guidance for Native American Consultation, H-8160-1. The Manual specifically notes that even mailed notification to Indian Tribes (even if that occurred with the other Tribes in this case) does not constitute valid consultation:

> **Legally required consultation.** In several court tests, attempts at written correspondence have been considered insufficient demonstration of an agency's effort to consult; unless accompanied by telephone and/or direct contact.
>
> **While *notification* can be satisfied through simple one-way written means, *consultation* is generally construed to mean direct, two-way communication.**

BLM Manual H-8160-1, at III-9 (emphasis in original).

The Manual further details the "**General Requirements of Consultation**," at III-2 (emphasis in original), in which the BLM states:

> **In contrast to general BLM public notification procedures, where the goal is to provide the public an opportunity to comment on proposed actions, the BLM must demonstrate a good faith effort to elicit specific kinds of information from Native Americans.**
>
> Published notices and letters, indicating that the BLM is contemplating an action and that interested persons may comment, generally will not prove sufficient to ensure that legal obligations to consult with Native Americans have been met.
>
> **A tribal council's or Native American organization's failure to respond to an inquiry letter cannot be assumed to indicate that the group is not concerned or does not have information relevant to the action being proposed.**

This higher duty of consultation that exists between federal agencies and Indian Tribes (in contrast to much lower levels of notification required between the agencies and the general public) rests on fundamental tenets of federal law.[13] As the BLM Manual, at I-1, notes:

> While Federal Government agencies are legally responsible to consider the interests of members of the public in general, Federal agencies' official interactions with Native Americans, including consultation, are distinguished by unique legal relationships. Sovereign status of Indian tribes and special provisions of law set Native Americans apart from all other U.S populations and define a special level of Federal agency responsibilities.

This "special level" was never met in this case. This is especially problematic for the BLM since it acknowledges its unique relationship with Native Peoples due to its large Western and Alaskan land holdings:

> [T]he BLM has special obligations toward Native Americans' land and resource-related cultural and religious issues, unmatched in all of the Federal Government. This means that the BLM, arguably more than any other bureau or agency, must establish ongoing, credible consultation relationships with the Native American peoples whose interests are potentially affected by the BLM's multiple use management of the public lands.

[13] Importantly, this level of consultation applies to all potentially impacted Indian Tribes, regardless of the current location of tribal members: "Tribes and groups with historic ties to the lands in question, including those that are no longer locally resident, should be given the same opportunity as resident tribes and groups to identify their selected contact person and their interests in the public lands." Manual H-8160 at III-5.

H-8160-1. at III-1.[14]

The Manual requires that such consultation should have occurred long before the issuance of the DEIS/EIR:

> The key to making those [consultation] systems work as they should for Native Americans is to bring particular groups' cultural interests and concerns into the planning and environmental review process *from the very outset*, and to consider them appropriately at each stage of the analysis and decision making (e.g., RMP's and project plans; general EIS's and specific EA's).

H-8160-1 at I-3 (emphasis added). The Manual, at III-7 (emphasis added), specifically notes that:

> In any case where it appears likely that the nature and/or the location of an activity could affect Native American interests or concerns, the BLM manager should initiate appropriate consultation with potentially interested Native Americans, *as soon as possible* after the general outlines of the land use plan or the proposed land use decision can be described.

Even though the Quechan Indians were involved in the cultural and historical surveys, the Manual specifically highlights the inherent problem with relying on cultural and archeological studies done without input from **all** the affected Tribe and Tribal members:

> **It is important to keep in mind that many, perhaps most, specific issues of Native American concern will <u>not</u> be issues associated with cultural resources such as archeological sites.**
>
> **Native American cultural concerns are likely to center on issues of access, collection and use of plants and animals, protection of religious places, and incompatible land and resource uses.**

H-8160-1 at III-12 (emphasis in original). The Consultation Section of the BLM Manual states that:

> The identification of Native American cultural values, issues, and concerns can

[14] In addition, the Interior Department's Manual section on Intergovernmental Relations, 512 DM 2.4 (B), requires that "In the event an evaluation reveals any impacts on Indian trust resources, trust assets, or tribal health and safety, bureaus and offices must consult with the affected recognized tribal government(s), the appropriate office(s) of the Bureau of Indian Affairs, the Office of the Solicitor, and the Office of American Indian Trust." The DEIS/EIR does not mention that the BLM complied with these requirements for all potentially affected Tribes.

occur only through consultation with tribal governments and practitioners of traditional culture and religion.

> **Specific knowledge of contemporary Native American cultural values can be obtained only from the Native American community that possesses the values, much as some forms of proprietary information about public land resource values (such as oil and gas well log data) must be obtained from outside the BLM.**

H-8160-1, at III-1 (emphasis in original).

The BLM's attempt to "mitigate" damage to Indian issues is also insufficient. Unlike non-Native resources at risk from a project such as Imperial, the BLM cannot simply determine the level of "mitigation" without directly reviewing the "mitigation" with Tribal leaders and Tribal members. The Manual specifically aims to avoid the problems encountered when attempting to "mitigate" impacts to Native concerns under general non-Native environmental mitigation approaches:

> Strategies to reduce proposed Federal actions' impacts, or proposed undertakings' effects, generally follow models related to the National Environmental Policy Act, the National Historic Preservation Act, and their implementing regulations (40 CFR Parts 1500-1508 and 36 CFR Part 800). *Where Native American cultural and religious concerns are involved, however, conventional methods of mitigation generally do not appropriately address the consequences felt by Native American practitioners.*
>
> The fact that the BLM's cultural resource specialists are frequently the ones assigned to do the staff work for certain Native American issues could lead to some misunderstanding that Native American issues are cultural resource issues. From there *it could be mistakenly deduced that Native American issues might often be resolved through mitigation methods such as archeological data recovery.* Such ideas would misinterpret the majority of Native American issues that managers must consider in decision making.

H-8160-1 at II-2 (emphasis added). The Manual, at II-3, goes on to note that:

> Infringement of religious freedom cannot be mitigated in the way that impacts and effects on natural resources and cultural properties can be reduced. Compromise -- i.e., we give a little, they give a little -- is not a suitable option. To demonstrate compelling governmental interest is a stringent test for routine land and resource management activities.

At a minimum, the BLM violated its requirement to review the "mitigation" with all of the Tribes and Tribal members before a decision was finalized. In describing such duties under the National Historic Preservation Act, the BLM Manual states that:

Native Americans are to be asked to participate where active management of historic properties is planned, i.e. where activity plans and project plans are being written and specific, on-the-ground steps will be taken to protect and/or interpret the property. (See Manual Section 8132.12B.) The purpose is to obtain Native Americans' views on how (or whether) the property should be patrolled, monitored, protected, stabilized, and interpreted.

For all of these reasons regarding the other Colorado River Tribes, the DEIS/EIR must be redone with direct and active consultation with all of the potentially affected Tribes to ascertain the full scope of tribal resources at risk as well as any appropriate revisions to the BLM's eventual decision.

015 **V. The DEIS/EIR Violates NEPA**

The DEIS/EIR violates NEPA's mandate to review all reasonable alternatives in a number of ways: (1) the BLM reviewed only a limited subset of alternatives, failing to consider several reasonable alternatives; (2) the DEIS/EIR improperly rejected viable alternatives; and (3) the agency improperly dismissed the no-action alternative as a viable option. The BLM also failed to adequately review all environmental impacts associated with the Project.

The consideration of alternatives is "the heart of the environmental impact statement." 40 C.F.R. § 1502.14. It is "absolutely essential to the NEPA process that the decisionmaker be provided with a detailed and careful analysis of the relative environmental merits and demerits of the proposed action and possible alternatives, a requirement that we have characterized as 'the linchpin of the entire impact statement.'" NRDC v.Callaway, 524 F.2d 79, 92 (2d. Cir. 1975). "The existence of a viable but unexamined alternative renders an environmental impact statement inadequate." Resources Limited v. Robertson, 35 F.3d 1300, 1307 (9th Cir. 1993) (quoting Idaho Conservation League v. Mumma, 956 F.2d 1508, 1519 (9th Cir. 1992).

In this case, the BLM not only failed to examine reasonable alternatives, it failed to adequately examine the alternatives it did review. As long as the alternative is reasonable, it should be considered. At a minimum, a full analysis of the reasons for rejecting these reasonable alternatives should have been included. To satisfy NEPA, "The agency must explicate fully its course of inquiry, its analysis and its reasoning." Dubois v. U.S. Department of Agriculture, 102 F.3d 1273, 1287 (1st Cir. 1996).

The current DEIS/EIR does not satisfy this basic requirement. For example, the BLM has made no complete and independent analysis of the "cost" factors involved in rejecting various alternatives, or of the public interest, because it predetermined, without any independent analysis, that such costs were unacceptable based on only a cursory analysis. See, e.g., DEIS/EIR at 2-66 to 2-75.

> NEPA requires, where economic analysis forms the basis of choosing among alternatives that the analysis not be misleading, biased, or incomplete. Oregon Natural Resources Council v. Marsh, 832 F.2d at 1499; Johnson v. Davis, 698 F.2d 1088, 1094 (10th Cir. 1983). To present a full and unbiased picture of proposed alternatives, the EIS must disclose both benefits and costs. California v. Block, 690 F.2d at 764.

Seattle Audubon Society v. Lyons, Slip Op. at 65, Nos. C92-479WD, C94-758WD & C94-803WD (W.D. Wash., Dec. 21, 1994).

In this case, the sole support for the economic basis for rejecting numerous alternatives is based on the reference to Smith, 1997. Upon examination of the Smith letter, it is clear that Mr. Smith based his review on generalized mining industry information – not on much site specific data. There is no independent verification of any of Mr. Smith's cursory conclusions, in violation of NEPA requirements at 40 CFR 1506.5(a). See also, Friends of the Earth v. Hintz, 800 F.2d 822, 834 (9th Cir. 1986).

The Supreme Court has made crystal clear the obligation of an agency to document its analysis in the record when making a decision otherwise left to the agency's discretion. In Burlington Truck Lines v. United States, it held:

> There are no findings and no analysis here to justify the choice made, no indication of the basis on which the [agency] exercised its expert discretion. We are not prepared to and the Administrative Procedure Act will not permit us to accept such ... practice. ... Expert discretion is the lifeblood of the administrative process, but "unless we make the requirements for administrative action strict and demanding, expertise, the strength of modern government, can become a monster which rules with no practical limits on its discretion."

371 U.S. 156, 167 (1962) (internal citations omitted).

Hence, an agency's explanation of the basis for its decision must be documented in and supported by an administrative record, which includes a "rational connection between facts found and the choice made." Bowen v. American Hospital Ass'n, 476 U.S. 610, 626 (1986). The failure to independently review the economics of the various alternatives, and the rejection of alternatives primarily on the inadequate Smith letter violates NEPA. The BLM must take "a hard look at the alternatives and explain its reasons for rejecting them." Coalition on Sensible Transp., Inc. v. Dole, 642 F.Supp. 573, 593 (D.D.C. 1986), aff'd, 826 F.2d 60 (D.C. Cir. 1987).

016 The BLM Improperly Rejected Viable Alternatives

As noted directly above, the BLM cannot reject a viable alternative such as underground mining and other less-damaging alternatives solely because current market conditions disfavor them. The Ninth Circuit has made it clear that claims of economic hardship by a mining applicant do not suffice to invalidate Forest Service requirements imposed to protect the environment. Clouser v. Espy, 42 F.3d 1522 (1994). Thus, the fact that the various reviewed alternatives may not be

economically advantageous to Glamis cannot override the agency's obligation to protect public land surface resources.

017 The BLM Failed to Consider an Alternative That Complies with the Claim and Acreage Limitations of the 1872 Mining Law

As noted above, Glamis Imperial can only conduct operations pursuant to the 1872 Mining Law if its claims are properly located and comply with federal mining laws. In this case, it is clear that the majority of mining claims at the site (i.e., those covering non-extractive surface uses) do not contain "valuable mineral deposits" and thus were improperly located and filed. That being the case, Glamis could refile the claims as millsite claims. However, such filings must comply with the strict 5-acre and one-to-one limitations of 30 U.S.C. § 42.

Since adherence to the millsite limitations necessarily requires a substantial revision of any Plan of Operations, the BLM should review and consider an alternative that "fits" the Project into such limitations. As noted in the Leshy/Babbitt Millsite Memorandum, applicants such as Glamis can seek to avoid the millsite limitations by acquiring the needed acreage via other means (e.g., land exchange). If such were the case, however, the BLM's NEPA and FLPMA review process would require substantial revision and entirely new public scoping, review, etc. Of course, the BLM could not approve such a proposal by Glamis unless it was in the public interest under FLPMA – a test this Project clearly fails.

018 The BLM Failed to Properly Consider, and Improperly Rejected, the No-Action Alternative

Although the DEIS/EIR attempts to use the no-action alternative as a benchmark of baseline conditions, it fails to adequately consider the adoption of this alternative as required by NEPA. See 40 C.F.R. § 1508.25. NEPA and its implementing regulations dictate that an agency consider the no-action alternative as one of the possible approaches to every project. An agency's failure to properly consider the no-action alternative violates CEQ regulations and NEPA's requirement "that federal agencies consider alternatives to recommended actions whenever those actions 'involve[ ] unresolved conflicts concerning alternative uses of available resources.'" Bob Marshall Alliance, 852 F.2d at 1228, quoting 42 U.S.C. §4332(2)(E) (1982).

The BLM must adequately explain "with some detail why the agency rejected the no action alternative, ... [and assure that the] discussion was adequate to demonstrate that the decision maker considered the alternatives and gave plausible reasons why they were rejected." All Indian Pueblo Council, 975 F.2d at 1446. As noted above, the BLM's assumption that the subject claims are valid – the reason BLM rejects the no-action alternative – is without factual support. The BLM's complete failure to investigate whether the subject claims are indeed valid under the Mining Law – **particularly those "mining" claims that are never intended to be mined** – clearly violates its duty to explain "with some detail why the agency rejected the no action alternative." Id.

28

This error is made more egregious based on the BLM's and Glamis' admission that the vast majority of mining claims covering "the heap leach pad, waste rock stockpiles, and the process and ancillary facilities" contain "no potentially valuable mineralization." DEIS/EIR at p. 4-4 (see also previous discussion regarding claim validity). How can the BLM reject the no-action alternative when all concerned admit that the claims used to justify such rejection are by definition invalid? Such a decision is clearly arbitrary and capricious and cannot stand.

The fact that Glamis has filed claims in no way means that those claims are valid. A conclusion that a no-action alternative is not viable because a claim is presupposed to be valid resembles a decision made without affording meaningful consideration to all of the alternatives proposed. The courts have frowned upon this kind of biased approach to examining alternatives. Citizens for Environmental Quality v. United States, 731 F. Supp. 970, 990 (D. Colo. 1989) (finding that a "result-biased decisionmaking process prevented the [agency] from establishing a legitimately broad range of reasonable alternatives as required by the statutory and regulatory scheme.").

Even if we assume (albeit incorrectly), as does the BLM, that Glamis has valid mining claims, the BLM's refusal to consider the no-action alternative as a viable alternative is still in violation of NEPA. The United States has the authority to take private property interests under the power of eminent domain. See, e.g., U.S. v. 0.95 Acres of Land, 994 F.2d 696 (9th Cir. 1993) (Forest Service filed a declaration of taking to take possession of land). The only limitation on the government's power of eminent domain is the Fifth Amendment of the Constitution which states that no "private property [shall] be taken for public use without just compensation." It does not preclude taking, but requires compensation. Accordingly, even if Glamis does in fact have valid mining claims (which the evidence in this case, as extensively noted by the Chapter, does not support) the government may always take this property interest and thereby prohibit mining.

The BLM has sold short its responsibility under NEPA. NEPA requires meaningful consideration of the no-action alternative. It also requires consideration of alternatives outside of the authority of the lead agency to implement. Accordingly, whether or not the BLM believes Glamis has valid mining claims and a "right" to mine under the 1872 law, NEPA imposed a duty to inform the public and consider the option of precluding mining - whether or not such a prohibition was within the power of the BLM under existing law.[15]

The BLM Failed to Adequately Review All Environmental Impacts of the Project

019 *Cumulative Impacts*

The DEIS/EIR inadequately considers the cumulative impacts from the proposed project on wildlife, biological resources, and air and water resources. NEPA requires that agencies undertake a complete cumulative impacts analysis when preparing an EIS. "The EIS is, by its very nature, a cumulative impacts document." Resources Limited, Inc. v. Robertson, 35 F.3d 1300,

[15] It could be argued that this alternative is an "action" alternative since the BLM would have to actively deny use of any supposed "rights." Either way, this alternative was not properly reviewed, and was improperly rejected.

29

1305 (9th Cir. 1994). See also City of Tenakee Springs v. Clough, 915 F.2d 1308, 1312 (9th Cir. 1990); NRDC v. Callaway, 524 F.2d 79, 87-88 (2nd Cir. 1975).

For example, it blindly assumes that unspecified mitigation measures that may be required at other activities in the area reduce the level of impact on threatened desert tortoise to less than significant. (DEIS/EIR at 5-15) There is absolutely no support or detail given to justify this conclusion – in violation of NEPA's mandate that such conclusions be supported by hard and independently-verified information. The failure to adequately review impacts on desert tortoise is exacerbated by the DEIS/EIR's focus on tortoise habitat impacts, with little, if any, mention of cumulative **mortality** to local and regional tortoise populations.

Regarding water resources, the DEIS/EIR mistakenly assumes that the All-American Canal Lining Project could not impact regional ground water since it believes that there is "no current schedule for implementation." (DEIS/EIR at 5-7, and 5-9). It appears that this assumption was based on an outdated "personal communication." Even if the Canal Lining Project may not be immediately on schedule, the question under NEPA is whether it is "reasonably foreseeable" that the Project may be built. The answer is an unequivocal "yes."

NEPA regulations define "cumulative impact" as:

> The impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

40 CFR 1508.7(g). In this case, it is clear that the significant ground water recharge that will be lost from the Canal Lining Project (such water "savings" is what the Lining Project is all about) will have a substantial impact on the local and regional ground water. As such, the DEIS/EIR's failure to consider it when reviewing the cumulative impacts is a fatal NEPA flaw.[16]

Regarding cumulative air resource impacts, the DEIS/EIR again assumes that state-required permits for other local and regional activities will substantially reduce emissions – without any detailed analysis. A similarly flawed process was done for biological resources, especially microphyll woodland. Without any factual support, with independent verification by the BLM, such conclusory statements cannot be justified.

This inappropriate lack of any supporting analysis is also found in the DEIS/EIR's treatment of visual resources, noise, and recreation. (DEIS/EIR at 5-20).

[16] The DEIS/EIR also incorrectly notes that the Canal Lining Project would result in only 6,770 acre-feet/year. (DEIS/EIR at 5-9). The correct figure appears to be 67,700 acre-feet/year as noted at p. 5-6.

30

020 *Inadequate Discussion, Review, and Requirements for Mitigation*

As with the inadequate consideration of cumulative impacts, the BLM relies on vague and unsupported conclusions and assumptions regarding mitigation measures. This is of particular concern for air quality, ground and surface water resources, wildlife and wildlife habitat, bonding/reclamation, and Native American resources. Oftentimes, the DEIS discusses potential mitigation measures whose effectiveness has not been determined. As recently ruled by the Ninth Circuit, such an EIS is unacceptable:

> The [agency's] perfunctory description of mitigation measures is inconsistent with the "hard look" it is required to render under NEPA. "Mitigation must be discussed in sufficient detail to ensure that environmental consequences have been fairly evaluated." Carmel-By-The-Sea v. Dept. of Transportation, 123 F.3d 1142, 1154 (9th Cir. 1997) (quoting Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 353 (1989)). "A mere listing of mitigation measures is insufficient to qualify as the reasoned discussion required by NEPA." Northwest Indian Cemetery Protective Association v. Peterson, 795 F.2d 688, 697 (9th Cir. 1986), rev'd on other grounds, 485 U.S. 439 (1988).

Neighbors of Cuddy Mountain v. U.S. Forest Service, (No. 97-35654, 9th Cir., March 4, 1998). Thus, the BLM's reliance on untested and unproven mitigation measures violates NEPA and cannot stand.

021 **VI. The BLM Violated Its Own Bonding Regulations**

The proposed financial assurance found in Appendix A is woefully inadequate and violates the BLM's recently-revised 3809 bonding requirements. According to the revised financial assurance requirements, all operations that are conducted pursuant to an approved plan of operations must comply with these requirements. Specifically, 43 CFR 3809.1-9 (emphasis added) states that:

> (a) No operator or claimant shall –
> (1) ...
> (2) Conduct operations under a plan of operations without providing the authorized officer with the appropriate financial guarantee as required by paragraphs (g) through (j) of this section.
> ...
> (g) Each operator or mining claimant who conducts operations under an approved plan of operations shall furnish to the authorized officer a financial guarantee in an amount specified by the authorized officer. In determining the amount of the guarantee, the authorized officer shall consider the estimated cost of reasonable stabilization and reclamation of areas disturbed, including the cost to the BLM of conducting the reclamation, using either contract or government personnel.

(h) **For activities conducted under a plan of operations, the financial guarantee must be sufficient to cover 100 percent of the costs of reclamation required by State and federal statutes and regulations and calculated as if third party contractors were performing the reclamation after the site is vacated by the operator. This calculation must be certified at the operator's or mining claimant's expense by a third party professional engineer registered to practice within the State in which the activities are proposed.... In no case shall the financial guarantee be less than $2,000 per acre or fraction thereof.**

At a minimum, the total disturbed acreage multiplied by $2,000 per acre to achieve the **minimum** financial assurance was not calculated, in violation of these rules. For example, the preferred alternative's disturbance of 1,362 acres * $2,000/acre = $2,724,000. It should be noted that since the proposed heap neutralization costs (Appendix A, Table 8) do not include any costs for revegetation, etc., (i.e., "100% of the costs"), the $2,000/acre minimum must also be applied to these lands above and beyond the heap neutralization costs. Overall, even these minimum figures appear to greatly underestimate financial assurance costs at other mines in the West. The BLM should compare the DEIS/EIR's proposed costs with other mines with related expenditures.

Regarding heap neutralization costs, indeed all reclamation costs, the fact that the company has only **proposed** them to state agencies does not meet the 3809 requirements for independent BLM verification.

More importantly, the proposed heap costs are woefully inadequate from a technical standpoint. For example, it appears that the final costs are geared to achieve a set level for cyanide while ignoring the potential for releases, especially long-term releases, of arsenic, selenium, mercury, uranium (and its byproducts), and metals. The DEIS/EIR must specify the expected levels of these constituents at and after "closure" of the heap. Again, deferring consideration of these issues to another state agency, and to another process, violates NEPA.

The financial assurances also do not contain costs for post-reclamation water and air quality site monitoring and testing necessary to determine whether "reclamation success" has been achieved. The DEIS/EIR notes that monitoring will be conducted, but financial assurance amounts for these activities have not been required nor proposed. In addition, there is no mention of costs to cover "reasonable foreseeable releases" from the heap leach pad and process ponds, as required by California law.

Another critical error is the lack of independent certification by a third-party professional engineer of all of the financial assurance calculations, as required by the BLM's new regulations (see above quote). Without this independent verification, the proposed numbers are essentially meaningless. The revised DEIS/EIR must include a full review and analysis of these issues.

This lack of disclosure as to the eventual reclamation/environmental protection program violates NEPA's mandate that such information be made available to the public before the agency approves the underlying activity or completes the NEPA review. The eventual success of reclamation efforts is critical to the overall decision as to whether to approve the Project. Despite the proponent's

mining claims under federal mining laws, the BLM cannot approve the project without assurance that reclamation will be successful.

The possibility of operator abandonment of the site prior to the completion of reclamation is a real possibility. Thus, under NEPA, this reasonably foreseeable event must be discussed in the DEIS/EIR. While the company will certainly not state that it intends to abandon the site, the likelihood that the agencies will be forced to complete the reclamation must be discussed.[17] Importantly, the EIS process must afford the public an opportunity to comment on the adequacy of the financial assurances that are developed between the agency and the company. The U.S. Environmental Protection Agency, charged with reviewing EISs prepared by other federal agencies under the Clean Air Act, recently affirmed its policy to include bonding as a requirement of the NEPA process for mining operations. See "EPA's Hardrock Mining Framework," September 1997 (incorporated herein by reference).

022 CONCLUSION

The San Diego Chapter of the Sierra Club, the Mineral Policy Center, the Wilderness Society, and the California Wilderness Coalition appreciate the opportunity to submit these comments. Based on the tremendous impacts associated with all the action alternatives, the BLM's only legal recourse is to inform the applicant that the Project violates federal and state law and must therefore be rejected. In addition, the Project as proposed violates the letter and spirit of federal mining laws regarding the proper location, filing, and validity of claims. In any event, the BLM must revise its DEIS/EIR as noted herein to comply with NEPA and other legal requirements.

Please direct all responses to the undersigned and Edie Harmon with the San Diego Chapter. In the future, we request that copies of all notices, drafts, revisions, decisions, proposals, etc. regarding the Project be sent to the undersigned and Edie Harmon.

Respectfully submitted,

Roger Flynn, Esq.
Western Mining Action Project

Attorney for the San Diego Chapter of the Sierra Club, Mineral Policy Center, Wilderness Society, and the California Wilderness Coalition

[17] A more likely scenario besides outright operator abandonment would involve a downturn in market forces that would impact the ability of the company to complete reclamation as planned -- thus necessitating government assumption of the reclamation. This unfortunately may be the case for many mines in the West as the price of gold is projected to remain low.

Cc: Senator Barbara Boxer
Imperial County Planning Department
Patrick Shea, BLM Director
Ed Hastey, BLM State Director
Felicia Marcus, EPA Regional Administrator
Karl Kanbergs, EPA Federal Activities Office

RESPONSE TO COMMENT LETTER I010 RECEIVED FROM ROGER FLYNN, ESQ., WESTERN MINING ACTION PROJECT, DATED APRIL 10, 1998

Response to Comment I010:001: Comment noted

Revisions to the Final EIS/EIR: None.

Response to Comment I010:002: (The Following Response is Also Applicable to Comments A001:004, A001:009, I005:002, I005:003, I006:007, I010:003, I010:004, I012:050, I013:033, I013:038, I013:039, I013:040, I013:041, I013:042, I013:043, I013:050, I013:051, I013:052, I013:053, I013:054, I013:055, I013:211, I013:212, I013:365, I013:377, I013:410, I015:006, I015:012, I015:013, I015:023, I015:024, I017:003, I017:004, I018:001, I019:007, I025:001, I025:005, I026:002, J011:008, J018:002A, J021:006, J021:007, J021:008, J022:005, J029:002, M022:001, M022:002, M022:003) On December 27, 1999, the Solicitor's Office for the Department of the Interior issued an opinion concerning BLM's legal authorities and responsibilities relative to mining claims on public lands. The Opinion provided specific guidance with regard to making decisions on mining claim plans of operation within the CDCA That opinion is attached to the Final EIS/EIR as Appendix T. BLM intends to rely on the legal analysis in this opinion in determining whether to approve the Plan of Operations.

In addition, language in Section 1.6.1 of the Final EIS/EIR has been changed to conform to this opinion. The BLM's final determination regarding whether or not the effects of the Project constitute "unnecessary or undue degradation," or "undue impairment," will be appropriately addressed in the Record of Decision. However, discussion of those criteria have been added to the Final EIS/EIR in Section 6.2.

In reconsideration of the Proposed Action, the Preferred Alternative has been revised to be the No Action Alternative.

Revision to the Final EIR/EIS: The following section has been added to the Final EIS/EIR.

Impairment of CDCA values

Glamis Imperial Project would result in irreversible and irretrievable commitments of resources which are relevant to BLM's responsibility under FLPMA Section 601, 43 U.S.C. 1781 to take "reasonable measures to protect the scenic, scientific, and environmental values of the public lands of the California Desert Conservation Area (CDCA) against impairment and to assure against pollution of the streams and waters of the CDCA." As described in chapter four of this Final EIS/EIR and reiterated in public comments and in

RESPONSE TO COMMENT LETTER I010 RECEIVED FROM ROGER FLYNN, ESQ., WESTERN MINING ACTION PROJECT, DATED APRIL 10, 1998

recommendations of the National Advisory Council on Historic Preservation, the Glamis Imperial Project would cause significant adverse impacts to cultural, Native American, historic, and scenic values. These impacts cannot be mitigated to a less than significant level. The following discussion is a summary of the key points:

The Quechan Indian Tribe has consistently stated their strong cultural and religious concerns regarding this Project. They have stated on numerous occasions that the Project is located within an area of traditional cultural significance. The Quechan state that a number of significant trails come together within this Project area. These trails have clear religious significance in Quechan tradition. The Quechan have stated the trails served to connect all major religious sites into a single complex through which they can trace their history as a people. One of the most important of the trails with religious significance, known to modern Quechan as the Trail of Dreams passes through the Project area on its way from Avikwlal (Pilot Knob), a highly significant sacred place, to Avikwaame (Newberry Mountain) where they believe the Creator first emerged and all Yuman peoples originated. The Quechan believe that a person can learn his history and his destiny through dreaming and that dreams can help solve practical problems in life. This trail is believed to be of critical importance to dreamers in navigating through the spiritual world.

The Trail of Dreams is important to the Quechan as a travel corridor from Avikwlal to Avikwaame. This would include both physical travel and spiritual travel through dreams. The Quechan believe that development of the Project mine and process area could cut-off travel along the Trail of Dreams. This is an especially strong concern because they believe the Trail of Dreams may be the last remaining route from Avikwlal to Avikwaame.

At the request of the BLM, The Advisory Council on Historic Preservation (the Council), the major policy advisor to the government in the field of historic preservation, reviewed the significance of the cultural values identified and the mine's potential impacts. The Council completed the requested review and advised BLM on October 19, 1999, that the cultural values were critical to sustaining the Quechan tribe's traditional religion and culture; that the mine would unduly degrade the area; and that no available mitigation measures were adequate to compensate for the loss of these cultural values.

The Council went on to say that if implemented, the project would be so damaging to historic properties that the Quechan Tribe's ability to practice their sacred traditions as a living part of the community life and development would be lost. The Glamis Imperial Project would effectively destroy the historic resources in the project area. The cumulative impacts of the

RESPONSE TO COMMENT LETTER I010 RECEIVED FROM ROGER FLYNN, ESQ., WESTERN MINING ACTION PROJECT, DATED APRIL 10, 1998

proposed mine on the properties, even with the mitigation measures proposed by the company, would result in a serious and irreparable degradation of the sacred and historic values of the properties that sustain the tribe.

Although the project proponent has attempted to devise mitigation measures responsive to the values of affected historic properties, they are not adequate to compensate for the loss. In an effort to minimize and mitigate impacts, Glamis Imperial Corporation redesigned certain aspects of the mine plan. These mitigation efforts represent a laudable proposal by the company. However, they do little to reduce the devastating impacts on the historic properties and their environment and fall short of compensating for the loss of the traditional religious and cultural values of the Quechan.

The visual character of the landscape comprising the Project mine and process area would be irreversibly altered through the excavation of the open pits and the creation of the waste rock stockpiles and heap. This area at present is relatively undisturbed, with only a few roads and trails of minor disturbance from the historic mining and ongoing mineral exploration activities. Based on BLM's 1995 visual resource management evaluation of the project, the project would not meet visual resource management objectives. The area is designated VRM II (retain existing visual character of the landscape) in accordance with the CDCA plan. Although reclamation would slightly reduce the long term level of negative visual impacts, much of the project area would be permanently impacted by the mining and the impacts to visual quality would remain significant after reclamation. Such significant impacts cannot be mitigated if the project is undertaken.

Response to Comment I010:003: See Responses to Comments I010:002 and I010:010.

Response to Comment I010:004: See Response to Comment I010:002.

Response to Comment I010:005: See Responses to Comments I010:002 and I010:006.

Response to Comment I010:006: (The Following Response is Also Applicable to Comments I005:0066, I0066:009, I010:007, I010:017, I013:077, I013:085, I013:086, I013:087, I013:088, I013:089, I013:090, I013:091, I013:092, I013:093, I013:094, I013:095, I013:218, I013:377, I015:7, I020:001, I020:002, I022:001, I022:002, I022:003, I022:004, I022:005, I022:006, I022:007, I027:002, I027:003, I027:004, I027:007, I028:002, I028:003, I028:004, J004:001, J007:016). The Draft EIS/EIR did not assume that the Applicant's mining claims are valid, but assumed that the Project would be constructed and operated as proposed in order to analyze the environmental effects

RESPONSE TO COMMENT LETTER I010 RECEIVED FROM ROGER FLYNN, ESQ., WESTERN MINING ACTION PROJECT, DATED APRIL 10, 1998

of the Proposed Action. Similarly, the Draft EIS/EIR's analysis of the environmental effects of the "No Action Alternative" assumed that the Project would not be constructed.

Section 1.6.1. (pages 1-12 and 1-13) of the Draft EIS/EIR generally discusses the regulatory framework for the surface management authorizations required from the BLM for the Project, including the Mining Act of 1872, the Federal Land Management and Policy Act (FLPMA), and implementing regulations found at 43 CFR 3809. Section 1.6.1. of the Draft EIS/EIR does not state "that a determination of the validity of the mining claims [*sic*] discovery of a valuable mineral deposit is . . . necessary to approval of a Plan of Operation by BLM," as requested by the comment, because as the comment states, "federal regulations do not require the conduct of a validity examination unless the mining claimant intends to patent the claims."

The BLM responded to public requests for performance of an examination of valid existing rights (a validity exam) for the Glamis Imperial Corporation mineral claims of the Imperial Project. An investigation was initiated, but never completed, on the Glamis mining claims. Prior to completing a valid existing right determination, BLM chose to complete the EIS/EIR on the project to conclude whether or not the Project would cause unnecessary or undue degradation, or undue impairment of resources of the CDCA.

Revisions to the Final EIS/EIR: None

Response to Comment I010:007: See Response to Comment I010:006.

Response to Comment I010:008: See Responses to General Comments 001 and 002 and Comments I010:009 and I010:010.

Response to Comment I010:009: (The Following Response is Also Applicable to Comments A001:008, I010:009, I017:005, I024:021, J007:005, J014:003 and J022:008.) Section 4.1.5.3.3. (page 4-56) of the Draft EIS/EIR states that "Some design elements have been incorporated into the Project to minimize the effects of the Project on desert tortoise. However, prior to any additional mitigation, the effects of the Project on desert tortoise are considered significant." Section 4.1.5.5. (page 4-78) of the Draft EIS/EIR specifically states that "The Proposed Action would result in the unavoidable "incidental take" of an estimated 33 to 57 desert tortoises (a federal- and state-listed threatened species) currently occupying the Project area, principally through harassment and some through direct mortality. Mitigation measures are proposed in the EIS/EIR in addition to those of the Proposed Action that would further reduce the adverse effects of the Project on desert tortoise to below the level of significance under NEPA. However, impacts associated with the loss of

RESPONSE TO COMMENT LETTER I010 RECEIVED FROM ROGER FLYNN, ESQ., WESTERN MINING ACTION PROJECT, DATED APRIL 10, 1998

33-57 desert tortoise and the loss of on-site habitat are considered significant and unavoidable because of the mandatory findings of significance for "endangered, rare and threatened" wildlife species under CEQA (See Section 1, above). This determination has been incorporated into the Final EIS/EIR.

As discussed in Section 3.5.2. (pages 3-41 and 3-42) of the Draft EIS/EIR, the ESA prohibits the "take" (i.e., killing, harming, or harassment) of listed T/E species without special exemptions. Section 7(a) of the ESA requires that the USFWS be formally consulted by federal agencies for those actions proposed by the federal agency which may adversely affect listed T/E species or their critical habitats. The BLM initiated the formal consultation process with the USFWS pursuant to Section 7 of the Endangered Species Act as amended with respect to impacts of the Project on desert tortoise on February 7, 1997, and the USFWS issued a Biological Opinion on March 28, 2000, which found that with the implementation of specific mitigation measures that the Project would not jeopardize the continued existence of the desert tortoise, and would thus not "violate" the federal ESA.

43 CFR 3809.2-2 states that "All operations, including . . . a plan of operations (§3809.1-4 of this title), shall be conducted to prevent unnecessary or undue degradation of the Federal lands and shall comply with all pertinent Federal and State laws, including but not limited to the following: . . . (d) The operator shall take such action as may be needed to prevent adverse impacts to threatened or endangered species, and their habitat which may be affected by operations." The definition of "unnecessary or undue degradation" is found in 43 CFR 3809.05(k) [and quoted in Section 1.6.1. (page 1-13) of the Draft EIS/EIR]. BLM regulations do not define "adverse impacts," but taken in the context of the requirements in 43 CFR 3809.2-2 to "comply with all pertinent Federal and State laws," the BLM does not concur that 43 CFR 3809.2-2(d) requires an "extra level of protection" for endangered species and their habitat than that provided by the ESA. Specific measures to mitigate the impacts of the Project on the desert tortoise, consistent with the requirements of the Biological Opinion issued by the USFWS, were provided as Mitigation Measures 4.1.5-30 through 4.1.5-47 in the Draft EIS/EIR and have been modified in the Final EIS/EIR to reflect the terms and conditions prescribed in the USFWS Biological Opinion issue March 28, 2000 (see Response to Comment E002:010).

The effects of the Project traffic on wildlife in general is discussed in Section 4.1.5.3.2. (page 4-54) of the Draft EIS/EIR, and specifically on desert tortoise in Section 4.1.5.3.3. (page 4-56). Mitigation Measure 4.1.5-4 directs the Applicant to advise employees, contractors, and visitors to adhere to posted speed limits and to be watchful of wildlife, including the desert tortoise, which may be encountered on roadways. It also requires the applicant to report any mortalities to the BLM and participate in agency efforts to reduce mortality of wildlife on the roads used as access to the Project

RESPONSE TO COMMENT LETTER I010 RECEIVED FROM ROGER FLYNN, ESQ., WESTERN MINING ACTION PROJECT, DATED APRIL 10, 1998

when so requested by BLM. Mitigation Measure 4.1.5-45 requires notification signs for the desert tortoise and speed limit signs to be placed and maintained within the Project boundary and along Indian Pass Road to reduce chances for inadvertent vehicle-induced mortality or injury to tortoises.

As stated in Section 3.5.4.2. (page 3-45) of the Draft EIS/EIR, the nearest designated desert tortoise critical habitat to the Project area is the Chuckwalla Unit, located at its closest approximately two miles northwest of the Project mine and process area (See Figure 3.14, page 3-46 of the Draft EIS/EIR). As stated in Section 4.1.5.3.3. (page 4-55) of the Draft EIS/EIR, the Project area is "unclassified" by the BLM with respect to desert tortoise habitat, and is not designated "critical habitat" by the USFWS. However, as a result of field survey documentation of the desert tortoise within the Project area, the Project area would be considered Category III tortoise habitat (the lowest level designation) under the USFWS tortoise habitat designations, and not "prime" tortoise habitat. However, because of the mandatory findings of significance for "endangered, rare and threatened" wildlife species habitat under CEQA, a net loss of any amount of desert tortoise habitat, including Class III tortoise habitat, resulting from the proposed Project, is also considered a significant impact under CEQA (See Section 1, above). However, because Class III tortoise habitat is not considered "critical habitat" for the desert tortoise, the reduction in the amount of Class III tortoise habitat resulting from the proposed Project is not considered a significant impact under NEPA. These determinations have been incorporated into the Final EIS/EIR.

Revisions to the Final EIS/EIR: None.

Response to Comment I010:010: (The Following Response is Also Applicable to Comments I010:003, I011:003 and I015:025.) Section 3.4.3. (pages 3-36 and 3-37) of the Draft EIS/EIR discusses the current air quality of the Project area, Section 4.1.4.2. (pages 4-39 through 4-43) of the Draft EIS/EIR discusses the air quality modeling performed for the Project, and Section 5.3.2. (pages 5-11 and 5-12) of the Draft EIS/EIR discusses the cumulative air quality impacts of all of the projects considered.

The quoted comment from page S-26 of the Draft EIS/EIR is taken out of context. Section 5.3.2. (pages 5-11 and 5-12) of the Draft EIS/EIR discusses the cumulative air quality impacts of all of the projects considered, and following an analysis, concludes that "the cumulative impact of PM_{10} emissions from all of the cumulative projects is expected to be below the level of significance during typical conditions. However, the CAAQS for PM_{10} have been exceeded locally in the past, and may continue to be exceeded in the future, during periods of high winds. The Proposed Action would contribute to the CAAQS for PM_{10} being exceeded in the future during periods of high wind since there would still be a net increase in PM_{10} emissions from the Proposed Action. This would be a

RESPONSE TO COMMENT LETTER I010 RECEIVED FROM ROGER FLYNN, ESQ., WESTERN MINING ACTION PROJECT, DATED APRIL 10, 1998

cumulatively significant effect. Mitigation measures to reduce emissions of PM_{10} from the cumulative projects (and the many other sources of PM_{10}) are already contained in the ICAPCD regulations, and implementation of these rules and regulations are directed at reducing PM_{10} emissions sufficiently to attain compliance with the NAAQS and CAAQS in the future." The comment fails to repeat the fact that this is stated as a cumulatively significant effect (as stated on page S-26, but not quoted by the comment).

As discussed in Section 4.1.4.2. (page 4-39) of the Draft EIS/EIR, "The principal pollutant of concern emitted by the Project is PM_{10} because of the relatively large quantity of PM_{10} emitted by the Project, the relatively low ambient air quality standard for PM_{10}, and the fact that nearly all of the Project PM_{10} emissions are from fugitive and mobile sources which are emitted throughout the Project mine and process area . . . . In order to estimate the ambient air concentrations of PM_{10} which may result from Project emissions, computer-aided dispersion modeling for the Project PM_{10} emissions was conducted (see Appendix O)." Section 4.1.4.2. (pages 4-40 and 4-41) of the Draft EIS/EIR clearly states that this modeling predicts maximum ambient 24-hour PM_{10} concentrations below, but close to, the CAAQS when the annual background PM_{10} concentration is added:

> "The computer-calculated maximum ambient 24-hour PM_{10} concentration located at any point on or outside of the Project mine and process area perimeter fence was 30.73 $\mu g/m^3$, located on the perimeter fence near the northwest corner of the Project mine and process area. Calculated maximum annual PM_{10} concentrations were 5.7 $\mu g/m^3$, also located on the perimeter fence at a point near the northwest corner of the Project mine and process area. Both of these values are below the applicable CAAQS and NAAQS (see Table 3.7), although close to the CAAQS when the background (annual) PM_{10} concentration (either 19.0 $\mu g/m^3$ (arithmetic mean) or 17.5$\mu g/m^3$ (geometric mean)) calculated from the nearest monitored location, Gold Rock Ranch, is added."

The use of the annual average PM_{10} concentration as the background concentration for the Project mine and process area is in conformance with the guidance provided in EPA's "Guideline on Air Quality Models" (Section 9.2 of Appendix W to Part 51). As stated, the background (annual) PM_{10} concentration calculated from the monitor located at Gold Rock Ranch was used because (as stated) it is the monitored location nearest to the Project mine and process area (three miles, or over 40 percent, closer than the Mesquite Mine). In addition, it is the only available monitored location which was not located adjacent to a mining operation. As stated in Section 3.4.2. (page 3-35) of the Draft EIS/EIR, there are two general wind patterns in the region; the "winter" period, when winds area out of the west and northwest, and the "summer" period, when winds are out of the southeast. The Mesquite Mine is located west to northwest of both the Project mine and process area and Gold

RESPONSE TO COMMENT LETTER I010 RECEIVED FROM ROGER FLYNN, ESQ., WESTERN MINING ACTION PROJECT, DATED APRIL 10, 1998

Rock Ranch; Gold Rock Ranch is located southwest of the Project mine and process area. As shown in Appendix L to Appendix O of the Draft EIS/EIR, the arithmetic mean of the PM_{10} monitored in 1996 at Gold Rock Ranch is higher in the "summer" period than the "winter" period. As stated in Section 4.4.2. (page 4-40) of the Draft EIS/EIR, "The computer-calculated maximum ambient 24-hour PM_{10} concentration located at any point on or outside of the Project mine and process area perimeter fence was 30.73 $\mu g/m^3$, located on the perimeter fence near the northwest corner of the Project mine and process area." This means that the average wind direction during this time period (the date of the maximum was May 19, 1989) had to be from the southeast, which is blowing towards, and not from, the Mesquite Mine.

For regulatory purposes, the model calculates only the single highest (maximum) 24-hour ambient PM_{10} concentration. This means that for all other 24-hour periods during the modeled year Project emissions resulted in computer-calculated maximum ambient 24-hour PM_{10} concentrations located at any point on or outside of the Project mine and process area perimeter fence less than this maximum concentration. Thus, it is not correct to assume that the addition of the modeled 24-hour PM_{10} concentrations resulting from Project emissions to the average background would result in the CAAQS for PM_{10} being exceeded approximately 50 percent of the time.

Because the modeled maximum ambient 24-hour PM_{10} concentrations are below the CAAQS (but not "well below," as one comment claimed the Draft EIS/EIR stated), the Project would not exceed the significance threshold of violating the ambient air quality standard, and the Draft EIS/EIR correctly concluded that "These impacts would be below the level of significance." It would be more improper for the Final EIS/EIR to state that the Project would violate the 24-hour CAAQS for PM_{10} when, in fact, it is not predicted to do so.

The 98 percent control efficiency referenced in the comment is applied only to particulate matter (fugitive dust) emissions from unpaved roads within the Project mine and process area. Emissions from unpaved roads outside the Project mine and process area (Indian Pass Road) assumed only an 80 percent control efficiency.

As stated in Section 2.1.9.6. (page 2-28) of the Draft EIS/EIR, "As part of Glamis Imperial's operations, water sprays and/or chemical treatments, which do not contain petroleum or petroleum by-products, would be used to minimize the generation of dust from disturbed surfaces within the Project mine and process area. Water, and/or an environmentally acceptable chemical dust inhibitor, such as magnesium chloride, would be applied to the haulage and other roads in sufficient quantities to minimize dust emissions. Water would generally be applied on those roads used only temporarily, while the chemical dust inhibitor would be routinely applied to the more heavily traveled areas." As

also stated in this section, "Water and/or an environmentally acceptable chemical dust inhibitor such as sodium lignosulfonate (a non-toxic non-hazardous, co-product of cellulose produced from trees), would be applied to Indian Pass Road from its intersection with Ogilby Road to the boundary of the Project mine and process area."

The estimate of 98 percent control efficiency used for the unpaved roads within the Project mine and process area in the air quality analysis is based on information provided in the document "Control of Open Fugitive Dust Sources" (EPA. 1988. *Control of Open Fugitive Dust Sources*. EPA Publication No. EPA-450/3-88-008, September 1988). As documented in EPA 1988, a PM_{10} emission control factor of 98 percent is achievable on unpaved roads, based upon a high frequency of treating the unpaved roads with chemical dust suppressants and water. As the Applicant has agreed to treating the unpaved roads within the Project mine and process area consistent with the rates required for achieving the estimated 98 percent control (see Mitigation Measure 4.1.4-1, which requires chemical dust suppressant treatments, in combination with water sprays, be applied at rates consistent with the guidance of the manufacturer to achieve optimal suppression of dust, at a frequency no less than twice per day on days without precipitation), the achievement of this control value is reasonable and was used for the air quality analysis. Since a lesser application rate/frequency would be applied to Indian Pass Road (see Mitigation Measure 4.1.4-4 [and Mitigation Measure 4.1.11.1-5], which required only that water sprays or dust suppressants be applied to Indian Pass Road from its intersection with Ogilby Road to the boundary of the Project mine and process area with sufficient frequency to minimize the emissions of fugitive PM_{10} from Project traffic on Indian Pass Road), a lesser control efficiency of only 80 percent was used. The Mesquite Mine (and other mines in similar arid environments) use similar measures to reduce fugitive PM_{10} emissions from unpaved roads, but likely do not apply them as frequently unless such a high degree of control is required.

As stated in Section 4.1.4.2. (page 4-41) of the Draft EIS/EIR, monitoring is proposed to be required to verify that the project does not exceed the ambient air quality standards. Mitigation Measure 4.1.4-9 requires both monitoring of PM_{10} which may be generated by Project activities and measures to reduce PM_{10} emissions should the monitoring indicate significant increases in ambient PM_{10} concentrations:

> "Applicant shall, in consultation with the ICAPCD, establish and maintain one (1) meteorological monitoring station (for wind speed and wind direction) and two (2) PM_{10} monitoring stations (6-day high volume samplers) to monitor project ambient concentrations of PM_{10} which may be generated by Project activities. It shall be the intent of the two (2) PM_{10} monitors to be located in generally an upwind and downwind arrangement and operated

RESPONSE TO COMMENT LETTER I010 RECEIVED FROM ROGER FLYNN, ESQ., WESTERN MINING ACTION PROJECT, DATED APRIL 10, 1998

simultaneously to provide information on the Project's effects on ambient PM_{10} concentrations. Should the monitoring show that Project operations may be contributing to a significant increase in ambient PM_{10} concentrations, then the Applicant shall review its procedures for reducing PM_{10} emissions and recommend to the ICAPCD methods which could be applied to reduce these emissions sufficiently to eliminate the significant increase."

The Draft EIS/EIR does not indicate that the Mesquite Mine produced violations of the CAAQS over 27 days during 1991; Section 3.4.3. (page 3-36) of the Draft EIS/EIR actually states that "PM_{10} monitoring at the Mesquite Mine during 1991 indicated that the 24-hour CAAQS for PM_{10} was likely exceeded a total of 27 days that year (BLM and ICPBD 1994a)." That the Mesquite Mine was not the likely source of the PM_{10} standards being exceeded is highlighted by the following sentence, which states that "The NAAQS was never exceeded at the Mesquite Mine during that year, although measurements taken at Brawley and El Centro did exceed the NAAQS (BLM and ICPBD 1994a)." It is the ambient concentration which exceeded the CAAQS.

The complete context of the sentence quoted by the comment regarding the use of Project Year 2 actually states the following:

"Emission rates for each of the individual emission units were calculated using the emission estimates presented in Appendix D and Appendix E. Based upon information provided by Glamis Imperial personnel, activities proposed to be conducted during Project Year 2, which is the first full year of full operation of all of the major Project components, were used to place the locations of the emission units. A diagram showing the locations of each of the emission units is provided as Plate 1, located in Appendix K." (*emphasis added*)

Thus, Project Year 2 was not used to determine Project emissions, but only their location. Emission estimates used the maximum Project operation rates applicable to the averaging period (either 24-hour or annual, with the 24-hour rates being either equal to or higher than the annual operation rates). The maximum Project operation rates are not projected to vary over the life of the Project. During the last year of the Project, mining will be occurring in the East Pit, but all of the other pits will already have been backfilled (see Section 2.1.3. [pages 2-7 through 2-12] of the Draft EIS/EIR). The haul road network would likely be shorter, not longer, as waste rock from the East Pit would be hauled to the north (close) end of the South Waste Rock Stockpile (the ore would be generally hauled the same distance to the heap). As indicated in Appendix B and Appendix C to Appendix O of the Draft EIS/EIR (and consistent with EPA guidance), particulate emissions from wind erosion on the waste rock stockpiles, heap, and soil stockpiles are dependent not on the total exposed area but on the active exposed area, which would remain relatively fixed over time. In addition, as stated

RESPONSE TO COMMENT LETTER I010 RECEIVED FROM ROGER FLYNN, ESQ., WESTERN MINING ACTION PROJECT, DATED APRIL 10, 1998

in Section 2.1.11.2. (page 2-37) of the Draft EIS/EIR, concurrent reclamation would also be undertaken on those areas no longer needed for mining activities, which would work to minimize emissions.

As stated in Section 2.1.9.6. (page 2-26) of the Draft EIS/EIR, "Project traffic on Ogilby Road and Indian Pass Road is estimated at approximately 47 light-weight vehicle round trips per day during normal operations, which assumes, based upon the experience of other mines in the area, that approximately 25 percent of workers carpool to work. Heavy truck traffic is estimated at approximately 3.5 round trips per day." As calculated in Appendix O of the Draft EIS/EIR and summarized in Table 4.5 (page 4-33) of the Draft EIS/EIR, these heavy delivery trucks would generate less than 9 pounds of PM_{10} per day along the approximate 4.76 mile length of Indian Pass Road. The 47 light-weight vehicles would produce approximately 124 pounds per day of additional PM_{10} emissions, for a total combined emissions of less than 133 pounds per day, or less than 28 pounds per mile of road. These Project access road emissions can be compared to the PM_{10} predicted to be emitted from project traffic along the access road to the Briggs Project (the unpaved, uncontrolled Trona-Wildrose Road), which were estimated at 600 pounds per day per mile. Because the Project PM_{10} emissions from the access road would be spread over the length of Indian Pass Road, distant from the concentrated sources located within the Project mine and process area, the Draft EIS/EIR (Section 2.2.4.2., page 26, of Appendix O) accurately states that these emissions "would have minimal effect on ambient air quality." (BLM approval is not required for use of Indian Pass Road by the Project, but only to construct the relocated portions of the road.)

The public health effects of ambient PM_{10} concentrations are, in general, long-term health effects, and thus long-term (annual) ambient PM_{10} concentrations are relevant. As stated in Section 4.1.4.2. (page 4-42) of the Draft EIS/EIR and reproduced above, the calculated maximum annual PM_{10} concentration was 5.7 $\mu g/m^3$. Further, this section (pages 4-40 and 4-41) indicates that PM_{10} concentrations at sensitive receptors were indistinguishable from background levels:

> "Maximum ambient concentrations at receptor points on the northern boundary of the Ft. Yuma Indian Reservation, a distance of 12,000 meters (7.5 miles) from the southern boundary of the Project mine and process area, were well below 1.0 $\mu g/m^3$ (both 24-hr and annual concentrations) and would be impossible to distinguish from background ambient concentrations. Impacts from the Project at the other discrete receptors placed at points of potential public concern were universally modeled at below 2.0 $\mu g/m^3$, and would likewise be impossible to distinguish from background concentrations."

RESPONSE TO COMMENT LETTER I010 RECEIVED FROM ROGER FLYNN, ESQ., WESTERN MINING ACTION PROJECT, DATED APRIL 10, 1998

Section 4.1.4.2. (page 4-43) of the Draft EIS/EIR further specifically discusses the lack of significant impacts to sensitive populations:

> "Project air pollutant emissions would produce modest increases in the annual average ambient concentrations of both criteria air pollutants and HAPs in the immediate vicinity of the Project mine and process area, well below any applicable threshold for exposure of sensitive populations. In addition, the Project mine and process area is far removed from any resident population, sensitive or otherwise, which could be exposed to any significant, long-term increase in the ambient concentrations of either criteria air pollutants or HAPs. Transient populations (i.e., recreational visitors) could be temporarily exposed to slightly higher level concentrations, although again these ambient air concentrations would be well below any appropriate threshold exposure level."

Section 3.4.1. (pages 3-33 and 3-34) of the Draft EIS/EIR discusses the federal and state ambient air quality standards. The state and federal primary standards listed in Table 3.7 (page 3-33) of the Draft EIS/EIR are health-based standards, and are set to protect the public health [see 40 CFR 50.2(b)]. The federal secondary standards (which for PM_{10} are the same as the primary standards) are set to protect the public health and welfare. Based on available health-air quality information, including some of the studies cited by the comment, the federal EPA revised the current PM_{10} standards and established a standard for particulate matter of aerodynamic diameter less than 2.5 micrometers ($PM_{2.5}$) in 1997 [see Section 3.4.1. (page 3-34) of the Draft EIS/EIR and Section 1.3. of Appendix O to the Draft EIS/EIR]. As stated in Section 4.1.4.2. (page 4-39) of the Draft EIS/EIR, the $PM_{2.5}$ standard is not yet applicable, and because there is a lack of background data and techniques to estimate emissions of $PM_{2.5}$, an evaluation of the Project's potential impacts and compliance with the $PM_{2.5}$ standard cannot be made.

Revisions to the Final EIS/EIR: None.

Response to Comment I010:011: See Response to Comment I012:018.

Response to Comment I010:012: See Response to Comment E001:013.

Response to Comment I010:013: See Response to Comment I005:004.

Response to Comment I010:014: See Response to Comment I012:048.

RESPONSE TO COMMENT LETTER I010 RECEIVED FROM ROGER FLYNN, ESQ., WESTERN MINING ACTION PROJECT, DATED APRIL 10, 1998

Response to Comment I010:015: (The Following Response is Also Applicable to Comment I010:016.) The Draft EIS/EIR (Section 2.3., pages 2-65 through 2-75, "Alternatives Eliminated from Detailed Consideration") specifically stated the rationale for eliminating each of certain alternatives from further consideration (page 2-65):

> "A number of potential alternatives to the Proposed Action were suggested during scoping, either by the lead agencies or as requests by the public. Consistent with the direction discussed in Section 2.2, alternatives to be considered in this EIS/EIR are limited to those that would avoid or substantially lessen any of the significant effects of the project and could feasibly attain most of the basic objectives of the project. Accordingly, all of the developed potential alternatives (except those which are described in Section 2.2) are discussed and evaluated below; first for their ability to avoid or substantially lessen any one (1) or more of the significant environmental effects of the Proposed Action, and then to determine whether they could feasibly attain most of the basic objectives of the project. The rationale for considering but not selecting for further analysis these suggested alternatives is also provided."

The analysis provided by Smith (1997) was used in the Draft EIS/EIR, in part, to determine that the possible alternative of moving the heap leach pad to an alternative location outside of the Project mine and process area was infeasible (as it would add at least $29 to $50 million to the cost of the Project), and that some potential alternative mining and processing techniques (underground mining, *in situ* leaching, vat leaching, and carbon-in-pulp leaching) were also infeasible because they would be uneconomic. However, the probability of substantial additional environmental effects were also discussed in the Draft EIS/EIR as reasons for these alternatives to be infeasible (Section 2.3., pages 2-65 through 2-75).

Response to Comment I010:016: See Response to Comment I010:006.

Response to Comment I010:017: See Response to Comment I010:006.

Response to Comment I010:018: (See Also Response to Comment I010:002.) The analysis of the "No Action Alternative" has been revised in the Final EIS/EIR and is the BLM Preferred Alternative.

Response to Comment I010:019: See Response to Comments E001:014; E001:015; I010:010; I012:042; I013:434; I015:016; I015:019; and I019:005.

Response to Comment I010:020: Comment noted.

RESPONSE TO COMMENT LETTER I010 RECEIVED FROM ROGER FLYNN, ESQ., WESTERN MINING ACTION PROJECT, DATED APRIL 10, 1998

Revisions to the Final EIS/EIR: None.

Response to Comment I010:021: See Response to Comment I002:010.

Response to Comment I010:022: Comment noted.

Revisions to the Final EIS/EIR: None.

LASER, INC.
LEGAL AND SAFETY EMPLOYER RESEARCH
AN INDEPENDENT INCORPORATED DIVISION OF THE WESTERN STATES PIPE TRADES
1490 Highway 99 Suite E Gridley, CA 95948 (P) 916/846-6352 (F) 916/846-5274

I011

BLM BY FAX
El Centro, CA
Attn: Douglas Romoli

Dear Mr. Romoli:

001 Here are LASER's additional comments on the Glamis Mine EIR/S.

These comments supplement LASER's previous submittal of Dr. Myers' water hydrology study of the Glamis Mine site. LASER understands that the Imperial County Building and Construction Trades (BCT), which includes member organizations who also belong to and support LASER, wish to join in LASER's comments in this project. LASER is also told that the Quechan Tribe may also wish to join in LASER's comments. The BCT and the Tribe may also be acknowledging their support of LASER's comments in their own correspondence with BLM.

Please send the FEIR/S, and the ROD, and your FOIA response regarding the composition of the minerals in the waste rock and ore bodies, to LASER's researcher:

JOHN WILLIAMS
12770 SW FOOTHILL DR.
PORTLAND, ORE 97225
503-626-5736, 503-641-2093

Yours,

Jim Wilson
Director of LASER

cc: BCT
Quechan Tribe
Senator Boxer
John Williams

1/5

002 SOCIO-ECONOMIC IMPACTS

Construction of the Mine will cause a large influx of hundreds of out of area workers for those one and two year jobs. These hundreds of uprooted workers will place significant demands on the social services providers in the project area. Police services will be sorely strained, for instance. For example, during 1995, the Magma Robinson Mine was constructed in White Pine County. So the 1994 county-wide crime Totals are from before the construction got underway full scale. The 1995 crime Totals include, for comparison, the importing a large, out of state mine construction crew, about 500 workers, and the resulting impact on the crime rate in White Pine County.

	1994	1995
Driving Under the Influence (DUI)	45	77
Felony Arrests	27	57
Misdemeanor Arrests	193	348
Traffic Accidents investigated	284	390
Citations	622	910

A hand search of arrest records in White Pine County confirmed that many of the arrested persons were employed at TIC and CDK, which are out-of-state construction companies working at the Robinson Mine construction site. The only arrest in White Pine County for murder in 1995 was a TIC employee. There were also arrests of TIC and CDK workers for drugs, drunk driving and other charges. In neighboring Eureka County, Nevada, two TIC workers, both of whom had criminal records, were arrested for possession of over 1000 lbs. of explosives while working on the Homestake Ruby Hill Mine construction job.

Researchers found similar results when TIC/Osborne, an out of state construction company, imported 100s of workers for the Fort Knox Mine construction project, near Fairbanks, Alaska. About 100 of the TIC/Osborne workers apparently had criminal records on file in the Fairbanks courts. About 40 TIC/Osborne workers were arrested locally during and after that construction project, for violations including cocaine sales, drug possession, a fugitive from a prior burglary bust, shooting guns at persons, assault, theft and fraud, and drunk driving.

Other studies of large construction projects show that this surge in imported workers, and their families, causes similar impacts on a variety of other social services, including but not limited to health care, schools, welfare, and parks. These crime statistics are illustrative of the wide variety of adverse socio-economic impacts that could be expected.

Although the above mentioned studies both mention the adverse impacts from workers imported from out of state by TIC, similar adverse socio-economic impacts would occur if any construction contractor imported large numbers of out of area workers. However, LASER notes that TIC has worked for this Mine developer on past jobs, therefore similar impacts are certainly possible on the Glamis construction job.

These impacts need to be studied, and mitigation measures should be suggested in the

2/5

EIR/EIS and mandated in the ROD, including direct funding of social and police services by the Mine.

AIR QUALITY

003 The proposed Glamis Mine will cause and contribute to significant adverse air quality impacts. But the EIR/EIS did not provide an adequate discussion of these impacts. The area around the proposed Mine is already in frequent non-attainment for the current PM standard. The Mine itself will be a new, large source of additional PM. This means the Mine will contribute to future non-attainment of the PM standard. While the EIR/S admits that the Mine will contribute to these violations, its discussion also attempts to demonstrate that th Mine by itself will not cause PM violations.

But the problem is that dozens of recent scientific studies demonstrate that increases in PM concentrations that are far below the current standard, are causing measurable impacts on human health, including but not limited to increased death rates, and increased admissions to emergency rooms linked to lung ailments such as asthma.[1]

---

[1] "Particulate Air Pollution and Hospital Emergency Room Visits for Asthma in Seattle." American Review of Respiratory Disease. Schwartz, Slater, Larson, Pierson, and Koenig. V. 147, pp 826-831, 1993.

"Air Pollution and Daily Mortality in Birmingham, Alabama." American Journal of Epidemiology. Joel Schwartz. Vol. 137, No. 10, 1993. See particularly figure 6, page 1145 for an illustration of how any increase in PM10 correlates to increased deaths.

"Air Pollution and Daily Mortality in Steubenville, Ohio.' American Journal of Epidemiology. Joel Schwartz and Douglas Dockery. Vol. 135, No. 1. 1992.

"Increased Mortality in Philadelphia Associated with Daily Air Pollution Concentrations." American Review of Respiratory Disease. Schwartz & Dockery. 145:600-604. 1992.

"Pulmonary Function and Ambient Particulate Matter." Archives of Environmental Health. Chestnut, Schwartz, Savitz, and Burchfiel. May/June 1991 (Vol. 46 (No.3) p 135-144.

"Particulate Air Pollution and Daily Mortality: A Synthesis." Schwartz. Public Health Review 1991/92; 19:39-60/

3/5

For instance, every 10 ug/M3 increase in PM concentrations has been linked to an increased death rate among the exposed population. The Mine, by itself, will increase PM concentrations by 30.73 ug/M3. This in itself is a significant adverse impact with measurable harms to the health of the exposed populations.

Furthermore, when this 30.73 of PM from the Mine is added to the background of 19.0 ug/M3, that totals 49.73, ug/M3. It is improper for the EIR/S to claim this number represents compliance with the standard of 50 ug/M3, since the difference (1/4th percent) is well within the margin of error for air impacts modeling.

AIR TOXICS

004 LASER also demurs from the EIR/S conclusion that there is only .01 ton/year of hazardous air pollutants emitted from the mine. Its total PM emissions alone are 233 TPY. One tenth of one ton is only one/20th of one percent of the total PM emissions. Since the PM emissions will consist of particles of highly mineralized rock, it is certainly likely that more than one 20th of one percent fraction of that PM will consist of toxic and hazardous materials such as lead, copper, zinc, mercury, selenium, other metals, and silica. Usually, other minerals such as copper are present in the parts per thousand level near marketable gold deposits. For instance, the EP tests on the various rock types yielded measurable levels of copper, lead, zinc, arsenic, chromium and other metals, which are considered toxic pollutants as airborne particulate.

Please provide LASER, under the Freedom of Information Act, a copy of any tests of waste rock and ore at this proposed mine site, which show the concentrations of metals and silica and selenium in the ore and waste rock.

SILICA

005 Certainly there will be more than .01 ton per year of airborne silica emissions. Quartz is cited as present in the host rock, so crystalline silica will be emitted during the processing of that material. Silica is considered a cancer-causing substance by the State of California and is on the Proposition 65 list. Elevated levels of silica frequent accompany gold deposits, because the same forces that cause near-surface gold deposits also induce elevated levels of silica. For instance, at the Bond Gold Mine, which is north of the proposed Glamis Mine, silica has been detected in airborne dust there, at levels as high as 49.7% of the total respirable dust. This would translate into maximum emissions of silica of about 100 tons/year, if the same levels of silica are emitted continuously by the Glamis operation. This could create silica concentrations in the air at approximately one/half of the PM levels or about 15 ug/M3. Compared to a prior Nevada State standard of about 2.3 ug/M3 for silica, this indicates a significant adverse impact, that of airborne silica emissions, that was not discussed in the EIR/S.

LASER also questions the table of emissions sources at p. 4-32, which shows the mercury retort with no emissions. Because it is electric, it will not have combustion emissions, but a retort's purpose is to drive mercury off of the refined ore by heat, thus producing airborne mercury emissions. Other, smaller mines' retorts have mercury emissions exceeding one TPY. This impact should be studied closely and the retort's emissions figures should be checked.

4/5

The heap leach process will also produce cyanide emissions that were not mentioned in the EIR/S. The electrowinning process can produce acidic emissions that are considered toxic, depending on the solutions and reagents used. These emissions are not described in the EIR/S.

TAILPIPE TOXICS AND AIR EMISSIONS

006 The EIR/S also apparently fails to quantify emissions from the "non-road" engines, which total almost 30,000 horsepower. These sources will emit significant amounts of conventional and toxic pollutants. Diesel fired engines have recently been implicated in the emissions of toxic air pollutants such as PAH, which is not mentioned in the EIR/S.

These are also large sources of NOX, for which this area is in non-attainment. So any increases of NOX emissions are significant adverse impacts. V At two grams/HP/hour, these sources could emit over 120 lb/hour of NOX alone, when all the equipment is operating. This is in line with emissions calculations at other large mines; the AMAX Hayden Hill Mine is estimated to have about 450 Tons/year of total NOX emissions, counting vehicles. These are significant impacts that should have been calculated and discussed, and mitigated in the EIR/S.

-END-

S/S

RESPONSE TO COMMENT LETTER I011 RECEIVED FROM JIM WILSON, DIRECTOR OF LASER, INC., DATED APRIL 10, 1998

Response to Comment I011:001: See Response to General Comment 002.

Response to Comment I011:002: As stated in Section 4.1.10.2. (pages 4-110 and 4-111) of the Draft EIS/EIR, the Proposed Action is expected to create jobs for 120 full-time employees. As many as 225 workers may be required during construction, although only a portion of these would be working on the Project at any single time. It is expected that a majority of these jobs will be filled by current residents of Imperial or Yuma Counties. Thus, it is unlikely that the number of out-of-area workers which would ever exceed 100, and these individuals would also likely be split between Imperial County, California and Yuma County, Arizona. Existing services in these two jurisdictions can easily accommodate this number of additional workers (see Section 4.1.11.2.1 on page 4-117 and Section 4.1.11.3.1 on pages 4-119 and 4-120 of the Draft EIS/EIR which addresses Project impacts on utilities and public services, respectively.).

Property taxes in Imperial County, depending on the assessed valuation of the Project property, are estimated to range between $250,000 and $600,000 per year. Sales tax on capital expenditures for the first year of the Project would amount to approximately $3.72 million; for subsequent years, approximately $0.13 million per year would be generated in sales tax for capital expenditures only. As stated in Section 4.1.11.3.2. (page 4-119) of the Draft EIS/EIR, "Any costs associated with . . . minor increases in demand for public or community services would be off-set by the additional property taxes and sales taxes provided to the communities and counties by the Project and Project employees."

Revisions to the Final EIS/EIR: None.

Response to Comment I011:003: (See Also Response to Comment I010:010.) The comment that "The area around the proposed Mine is already in frequent non-attainment for the current PM standard" is not accurate. As discussed in Section 3.4.1. (page 3-34) of the Draft EIS/EIR, the term "non-attainment" is a regulatory term used to define the legal status of an area in regards to the applicable ambient air quality standard. It should not be confused with the quality of the ambient air at any specific point over any specific time period. An area is either designated attainment or non-attainment by the regulating agency(ies), and this does not vary with time except as may be changed by these regulating agency(ies). It is the ambient air quality which may (or may not) exceed the designated ambient air quality standard(s) at a given point over a given time period.

Revisions to the Final EIS/EIR: None.

RESPONSE TO COMMENT LETTER I011 RECEIVED FROM JIM WILSON, DIRECTOR OF LASER, INC., DATED APRIL 10, 1998

Response to Comment I011:004: Appendix I to Appendix O of the Draft EIS/EIR accurately calculates the quantity of particulate matter-based hazardous air pollutants (HAPs) emitted from the Project at approximately 0.1 tons/year, but Appendix O of the Draft EIS/EIR incorrectly reports this as 0.01 tons/year. Section 4.1.4.2. (page 4-36) of the Draft EIS/EIR repeats this misstatement:

> "HAPs are specifically listed hazardous air pollutants, some of which can be found in many of the natural earth materials which would be mined by the Project; in the fuels used and stored by the Project; and in the solution used to leach the precious metals from the ore. Current EPA and ICAPCD guidance provides that reasonably quantifiable HAP emissions from fugitive sources, as well as from stationary sources, must be counted to determine the applicability of Title V for HAPs. The potential HAPs component of the emitted Project particulates has been conservatively estimated by assuming that all of the HAPs contained in the fugitive particulate matter are subject to Title V (Rule 900). Based upon analyses of ore and waste rock samples collected during exploration drilling (see Section 2.1.4.), and using the calculated total annual TSP emission estimates (see Table 4.5), the total annual emission of particulate-based HAPs has been estimated at less than 0.01 tons (see Appendix O)."

Section 2.1.4. (specifically Section 2.1.4.2. [page 2-13]) of the Draft EIS/EIR explains that the metals concentrations in the Imperial Project ore and waste rock are quite low:

> "None of the total extracted metal concentrations from the samples exceeded the State of California Total Threshold Concentration Limits (TTLCs) for characteristically toxic hazardous waste for any constituents tested, and most metal concentrations were an order of magnitude or more below the respective TTLC values. Metal concentrations detected in the solution extracted from samples using the SPLP method were all consistently very low (EMA 1995, see Appendix C-1; EMA 1996b; see Appendix C-2)."

The specific analytical results used for the calculation of the annual particulate-based HAPs emission from the Project are provided in Appendix C to Appendix O of the Draft EIS/EIR. The Final EIS/EIR will note the typographical error in Appendix O of the Draft EIS/EIR and correct the same error in Section 4.1.4.2. of the Draft EIS/EIR. However, the concluding statement made in this subsection of the Draft EIS/EIR ["The total annual emission of all potentially applicable HAPs from the Project, including reasonably quantifiable fugitive HCN emissions, is approximately 0.5 tons, substantially below both the 25 ton project-wide Title V threshold and the 10 ton individual HAP Title V threshold (see Appendix O)."] is still accurate and applicable. This impact is below the level of significance.

RESPONSE TO COMMENT LETTER I011 RECEIVED FROM JIM WILSON, DIRECTOR OF LASER, INC., DATED APRIL 10, 1998

Revisions to the Final EIS/EIR: The last sentence of the second paragraph on page 4-36 of the Draft EIS/EIR will be revised to correct the typographical error regarding the quantity of emitted HAPs: "Based upon analyses of ore and waste rock samples collected during exploration drilling (see Section 2.1.4.), and using the calculated total annual TSP emission estimates (see Table 4.5), the total annual emission of particulate-based HAPs has been estimated at approximately 0.1 tons (see Appendix O)."

The last sentence in the third paragraph on page 23 of Appendix O of the Draft EIS/EIR should be read as follows "As indicated in Appendix I, the total potential to emit for all Title V applicable metal HAPs generated by the Proposed Action is ~~less than 0.01 tons.~~ approximately 0.1 tons."

Response to Comment I011:005: Crystalline silica is not a HAP, and therefore Project emissions of crystalline silica were not quantified with the HAP emissions in the Draft EIS/EIR. Crystalline silica has also not been designated as a "Toxic Air Contaminant" by the California Air Resources Board pursuant to the provisions of AB1807 and AB2728, but is only being evaluated for entry onto the list of substances currently under review or nominated for review for identification as toxic air contaminants (California Air Resources Board Toxic Air contaminant Identification List - June 1996; http://www.arb.ca.gov/toxics/tac/taclist.htm, updated August 14, 1998). The State of California has determined under "Proposition 65" that crystalline silica (airborne particles of respirable size) is a carcinogen (California Air Resources Board Toxic Air Contaminant Identification List Summaries - ARB/SSD/SES September 1997).

No analysis of the potential percentage of crystalline silica in the airborne particles of respirable size has been undertaken for the Imperial Project. However, the Project ore is not highly mineralized, and as stated in Section 3.1.2. (page 3-9) of the Draft EIS/EIR, the gold and silver mineralization is associated with limonite and hematite in highly sheared and brecciated gneiss, and there is only minor hydrothermal alteration present as a weak form of sericitization. Thus, the percentage of crystalline silica in the airborne particles of respirable size (PM_{10} fraction) would be substantially lower than that for gold deposits with higher degrees of mineralization, and substantially less than the nearly 50 percent mentioned in the comment for the "Bond Gold Mine." For example, tests conducted in 1992 for the Rand Mine in Kern County, California (which mines ore which is also not highly mineralized) determined that the average crystalline silica concentration of the airborne particles of respirable size (PM_{10} fraction) was approximately 12 percent (WZI, Inc. 1992. AB 2588 Source Test Report Prepared for Rand Mining Company. July 14, 1992). Further, quartz was the only crystalline silica detected.

RESPONSE TO COMMENT LETTER I011 RECEIVED FROM JIM WILSON, DIRECTOR OF LASER, INC., DATED APRIL 10, 1998

We have been unable to verify the comment's assertion that the State of Nevada had a prior standard of 2.3 $\mu g/m^3$ for crystalline silica, but the current federal Occupational Safety and Health Administration (OSHA) standard for crystalline silica (quartz only) is 10 mg/m^3, or 10,000 $\mu g/m^3$, for an eight-hour work day in a 40-hour work week. Even assuming that 50 percent of the PM_{10} emitted by the Project is crystalline silica (which, as stated above, is likely very conservative), and assuming that the maximum 24-hour ambient PM_{10} concentration modeled for Project emissions (30.73 $\mu g/m^3$) was applicable for the entire exposure period (the more applicable calculated maximum annual PM_{10} concentration modeled for Project emissions was 5.7 $\mu g/m^3$), the resulting concentration of crystalline silica in the airborne particles of respirable size would be 15.4 $\mu g/m^3$, or nearly 650 times less than the 10 mg/m^3 standard. This is not a potential significant effect.

The table of emissions (Table 4.5) on page 4-32 of the Draft EIS/EIR lists only emissions of criteria pollutants (TSP, PM_{10}, SO_x, NO_x, CO, and VOCs/ROGs) from Project emission sources, including the mercury retort furnace. Since mercury is not a criteria pollutant, and as stated in the comment the furnace is electric and would thus not produce any combustion emissions, there are no emissions listed for the mercury retort furnace in this table. However, mercury is a HAP, and annual mercury emission from the mercury retort furnace are quantified in Appendix H of Appendix O to the Draft EIS/EIR at 9.04×10^{-3} pounds per year.

Revisions to the Final EIS/EIR: None.

Response to Comment I011:006: The Project calculated annual emissions of Title V-regulated air pollutants (listed in Appendix H and Appendix I of Appendix O of the Draft EIS/EIR) must be distinguished from the total Project estimated emissions of air pollutants, which were calculated in Appendix D and Appendix E to Appendix O of the Draft EIS/EIR (the total annual emissions of the criteria air pollutant emissions from all Project sources, including the non-road engines, are presented in Appendix G to Appendix O, and Table 4.5, of the Draft EIS/EIR). As stated in Section 4.1.4.2. (pages 4-35 and 4-36) of the Draft EIS/EIR:

> "To determine the applicability of Title V (Rule 900) to the Project, an inventory of the annual potential to emit for each of the applicable emission units was conducted for the Proposed Action (see Appendix O). Since Title V (Rule 900) specifically excludes "fugitive" and "mobile" (road and non-road engine) sources of regulated air pollutants, it is basically applicable only to stationary ("point" and "other") sources of criteria (regulated) air pollutants (and certain HAPs). As such, few of the Project's emission units are included in the Title V applicability for criteria pollutants."

RESPONSE TO COMMENT LETTER I011 RECEIVED FROM JIM WILSON, DIRECTOR OF LASER, INC., DATED APRIL 10, 1998

As presented in Appendix G to Appendix O, and Table 4.5, of the Draft EIS/EIR, annual Project emissions of NO_x total 691 tons, of which approximately 640 tons result from operation of the Project non-road engines. All project emissions of the criteria pollutants, including those from the non-road engine sources, were included in the air quality impact analyses and air modeling conducted in Appendix O of the Draft EIS/EIR [and discussed in Section 4.1.4.2. (pages 4-39 through 4-42) of the Draft EIS/EIR], which concluded that the highest concentrations of NO_2 would be below the applicable CAAQS and NAAQS, and thus the impacts would be below the level of significance.

As stated in Section 3.4.3. (page 3-36) of the Draft EIS/EIR, ". . . all of Imperial County . . . is designated as "attainment" for sulfates/sulfur dioxide (SO_4/SO_2), oxides of nitrogen (NO_x), and lead (Pb)," not "non-attainment," as stated in the comment.

Revisions to the Final EIS/EIR: None.

COURTNEY ANN COYLE
ATTORNEY AT LAW

I012

232 PLAYA DEL SUR
LA JOLLA, CA 92037

TELEPHONE 619-454-8687 E-MAIL: COURTCOYLE@AOL.COM FACSIMILE: 619-454-8493

Douglas Romoli
Bureau of Land Management
South 4th Street
El Centro, CA 92243

BY CERTIFIED U.S. MAIL
April 12, 1998

Re: Imperial Project (Glamis Imperial Corporation), Imperial County, California, DEIS/R, November 1997

Dear Mr. Romoli:

001 This letter and its attachments are timely submitted on behalf of my client for inclusion in the administrative record for this proposed project.[1] The ecological and cultural integrity of the site is now challenged by a proposed foreign-owned, hard-rock mining project. Based on the November 1996 DEIS/R ("DEIS/R 1") and technical appendices, November 1997 DEIS/R ("DEIS/R 2") and technical appendices, site visits with archaeologists, attendance at Quechan-affiliated events and hearings, attendance at professional and avocational archaeological conferences, as well as consultations with other relevant expert counsel, document review and legal research, we conclude that: the DEIS/R fails as an information disclosure document under both NEPA and CEQA, the No Action Alternative is the only legal alternative, a legally supportable Statement of Overriding Considerations cannot be made for the proposed project, and that the project fatally infringes on Constitutionally protected First and Fifth Amendment rights of the Quechan Nation.

I. The DEIS/R Contains Substantial Evidence that Access to and Protection of Quechan Sacred
002 **Sites and Geography are Vital, Protected Aspects of Quechan Religious Exercise under the First and Fifth Amendments to the U.S. Constitution.**

The public participation phases of land use planning during CEQA and NEPA environmental review is the "most appropriate time" to raise and examine important environmental impact and constitutional issues associated with traditional cultural properties and other Native American issues and concerns. (H-8160-1- General Procedural Guidance for Native American Consultation ("BLM Manual"), IV-F, p. 26); San Diego County Archeological Society, Inc. v. Compadres (1978) 81 Cal.App.3d 923, 927, *cert. den.* August 31, 1978. All cultural resource aspects, historic properties, religious practices, manipulation of the landscape (burning of vegetation), and lifeways should be considered *during the*

[1] As these comments are based on presently available information, we reserve the right to present additional comments in the record as additional information is disclosed and as arguments are refined. Further, it is our understanding that additional relevant confidential materials may exist at BLM and elsewhere regarding this project. As we do not have access to such materials at this time, should access to some or all of them become available, we reserve the right to place written comments in the record on their contents.

NEPA process. (Thomas King, Society for California Archaeology ("SCA"). SCA 32nd Annual Meeting, Native American Cultural Resources Workshop comment; BLM video. "Sacred Domain: Tribal Perspectives in Land Use," script written by Bruce Crespin).

The purposes of Native American consultation under NEPA are to identify potential conflicts that would not otherwise be known to the BLM and to seek alternatives to resolve these conflicts. Moreover, using environmental review as a foundation for consulting with Native Americans has several "special advantages" listed in the BLM Manual. (BLM Manual, IV-E, p. 25). The consultant for the DEIS/R 2 acknowledges that, "the testimony of modern Quechan with respect to the religious meaning of certain archeological features is critical to the full understanding of the significance of these things." (DEIS/R 2, Appendix L, p. 268).

003

A. The First Amendment, First People and Sacred Geography[2]

Congress passed the Religious Freedom Restoration Act to prevent the government from burdening the free exercise clause of the First Amendment. 42 U.S.C. Section 2000bb. The government cannot burden the free exercise of religion unless the government can show, under the "strict scrutiny test," that there is a compelling government interest at stake to approve the proposed mine and that project design and operations impose the least burdensome way (upon the Quechan) to achieve the goal. (BLM Manual, IV-G, p. 27)(The compelling interest test should be the basic standard guiding all BLM decisions that might burden Native Americans' free exercise of religion, whenever free exercise would invoke access, use, ritual practice, and other activities relevant to traditional religious use of lands and resources).

As will be shown throughout this comment letter, BLM cannot meet this highest of burdens on the facts associated with, and the environmental documents produced for, this proposed project.[3] Second, Lyng v. Northwest Indian Cemetery Protective Ass'n (1988) 485 U.S. 439, 455, supports that federal agencies should not impede upon Indian religious practices "without a clear decision on the part of Congress or the administration that such religious practices must yield to some higher consideration." No such burden is met in the environmental record for this proposed project. Third, the social, economic and legal institutions of the United States must take account of and accommodate the needs of Native American religious practitioners in ways that preserve the integrity of both religious practice and sacred geography essential to that practice. (Deward E. Walker, Jr. (1987) Protecting American Indian Sacred Geography. *Northwest Anthropological Research Notes,* Vol.22 No.2: 241-254, at 242).

Indeed, BLM itself has freely admitted as much: "In keeping with governmental policy, these resources and values [manifested in places, objects, structures and other significant sociocultural resources] have the right to protection as expressions of religious freedom." (FEIS and Proposed Plan, California Desert Conservation Area ("FEIS and CDCA Plan"), Appendix Volume D, Appendix VIII

---

[2] It is well known that cultural, religious, and linguistic differences pose an especially acute challenge for attorneys in Native American sacred geography cases. Accordingly, any translational errors or inadequacies in this letter are to be attributed solely to me and not the Quechan (Nation or individuals) or the experts cited herein.

[3] If the government is to prevail against a *prima facie* case of free exercise violation, it must show that honoring the claim and others of like kind will significantly harm important governmental interests. Ira Lupu, Where Rights Begin: The Problem of Burdens on the Free Exercise of Religion, 102 Harv. L. Rev. 933, 949 (1989). We recognize that this is a high standard for claimants to meet. But on these facts, with this tribe and considering these resources, the Quechan can readily establish a *prima facie* case. On the other hand, BLM and Imperial County have not, and ultimately cannot, demonstrate the requisite, widespread governmental harm.

Native American, Part 3, "Traditional Native American Values" BLM September 1980, page 103).[4] The State of California also recognizes these resources and provides for open expression of Native American religious practice on public lands: no public agency and no private party using or occupying public property shall in any manner interfere with the free expression or exercise of Native American religion or cause severe or irreparable damage to any Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine located on public property except on a clear and convincing evidence that the public interest and necessity so require. Public Resources Code ("PRC") Section 5097.9. BLM goes even further and states that it is the agency's "Native American Policy" to "allow Native Americans free access to sites of religious and ceremonial significance." (FEIS and CDCA Plan, Appendix Volume D, Appendix VIII Native American, Part 2, "MOU Pertaining to BLM, California Policy for Native American Concerns and Cultural Resource Management," BLM March 1980, page 98).

The Quechan Nation has one of the highest tribal enrollments of any federally recognized tribe in California (approximately 3,000 persons on and off reservation). The Fort Yuma Reservation, at just under 45,000 acres, is the third largest reservation by acreage in California, behind the Hoopa Valley Reservation and the Tule River Reservation. (Personal Communication with Bureau of Indian Affairs, March, 1998). The DEIS/R 2 readily concedes the spiritual significance of the project's general area to the Quechan Nation. Its trails are associated with dreaming, its geoglyphs are associated with the Keruk ceremonial cycle, abundant split quartz speaks to the release and purification of spiritual energy, power circles for spiritual education are manifest, and ancient pictographs, each attest to the site's significance. (DEIS/R 2, Appendix L, pp. 115-116). We shall show that, in light of these fragile and irreplaceable resources, BLM must recognize and accommodate the Quechan's free exercise of religion on this public land and find the proposed mine an incompatible and inappropriate use for this sacred area. Free access to nowhere is no freedom of religion.

004

1. Quechan Religious Freedom Requires Sacred Sites, Access To Them & Nonalteration of the Landscape at Indian Pass

The most significant losses of religious freedom for American Indian claimants have occurred in connection with protection of and access to sacred sites. (Robert S. Michaelsen (1985) American Indian Religious Freedom Litigation: Promise and Perils. *Journal of Law and Religion*, 3(1): 47-76, at 53).[5] "Sacred sites" include material cultural resources, discrete locations where sacred events occur, and the geographic area leading to and around the sites. Sacred geography includes areas known as traditional cultural properties ("TCPs"). TCPs are defined as properties or places eligible for inclusion in the National Register of Historic Places ("NRHP") because of their association with cultural practices and beliefs that are (1) rooted in the history of a community, and (2) are important for maintaining the continuity of that community's traditional beliefs and practices. (Patricia L. Parker *Traditional Cultural*

[4] It should be said that EISs prepared when developing a resource management plan provides NEPA coverage for many actions affecting the public lands and resources. Thus, a review of such documents, like the CDCA FEIS and Plan, are "essential." (BLM Overview of BLM's NEPA Process("Overview of BLM") National Training Center Course Number 1620-02, September 1996, p. 9). Moreover, BLM must coordinate to assure consistency to the "greatest extent possible" with officially approved plans. (Id. at 40).

[5] It is worth noting that at least one of the successful "sacred sites" cases is a California case. Northwest Indian Cemetery Protective Association v. Peterson (N.D. Cal. 1983) 565 F.Supp. 586, *modified*, 764 F.2d 581 (9th Cir. 1985) (National Forest Service efforts to complete a road across an area in Six Rivers National Forest regarded by Yurok, Karok and Tolowa Indians as sacred blocked by the courts on free exercise grounds where area at issue was indispensable and central to their religious practices and beliefs and proposed governmental actions would seriously interfere or directly or indirectly impair those practices).

Properties: What You Do & How We Know, CRM Vol. 16, 1993 (Special Issue)). Frequently, sacred sites are areas where "native mythology projects itself onto the landscape." (Personal Communication Peter Nabokov, associate professor in the American Indian Studies Program at UCLA, April 1998).

Sacred geography is a universal and essential feature of the practice of American Indian religions. Without continuing access to many sacred sites which maintain their physical integrity, most practitioners of traditional American Indian religions will be denied the opportunity to practice many vital ceremonies. (Deward E. Walker, Jr. (1987) Protecting American Indian Sacred Geography. *Northwest Anthropological Research Notes,* Vol.22 No.2: 241-254, at 241). In fact, it is a rule rather than an exception that American Indian ritual life is inextricably tied to the natural environment. Id.[6] With respect to the Imperial Project, the keys to the continued integrity and access to the sites sacred to the Quechan rest in the hands of BLM and the Imperial County Board of Supervisors.

In previous literature, BLM has defined "sacred areas" as those including burial sites, religious ceremonial sites, certain areas of mythic association, spirit lands, and certain areas employed for healing purposes. (FEIS and CDCA Plan, Appendix Volume D, Appendix VIII Native American, Part 5, "Sensitivity and Potential for Mitigation" BLM September 1980, page 111). More recently, it has been acknowledged that sacred geography may be represented by "an imposing mountain such as a volcano, waterfall, cave, colorful rock formation, hot spring, or an unusual landform. Sacred geography is a universal and integral part of American Indian religions. The natural landform or feature represents a sacred altar or church where people may communicate with spirits and acquire spiritual powers. Degradation or loss of access to such sites may restrict or preclude the opportunity or right to practice a crucial part of religion." (Geological Heritage Working Group, Terry Maley, Discussion Group Leader, *Draft Recommendations for the Management of Geological Heritage Resources on the Public Lands*, June 2, 1997, p. 7).

The area encompassing the Imperial Project consists of such sacred areas. One sacred area is not "exchangeable" for another: sacred sites are not fungible commodities. Lyng v. Northwest Indian Cemetery Protective Ass'n (1988) 485 U.S. 439, 461 (Brennan dissent) ("[r]ituals are performed in prescribed locations not merely as a matter of traditional orthodoxy, but because land, like all other living things, is unique, and specific sites possess different spiritual properties and significance"); Lorey Cachora, SCA 32nd Annual Meeting, Native American Cultural Resources Workshop comment ("The Quechan can't 'go borrow' the Navajo sacred spaces."); Valcamonica Symposium 1998 "Prehistoric and Tribal Art: Shamanism and Myth" announcement (Tribal "artists" have exhibited, from the beginning, a clear desire to choose their place of creation carefully, and it is in these sacred locations that they have left signs and memories). Unless rituals are performed at the proper locations, they have little or no efficacy; in a literal sense, the natural environment becomes an often *immovable altar* or church to these religions. (Deward E. Walker, Jr. (1987) Protecting American Indian Sacred Geography. *Northwest Anthropological Research Notes,* Vol.22 No.2: 241-254, at 250).

Such nonfungibility, however, is completely lost on the applicant, Mr. Baumann. States he: "Two miles north (of the mine) are 41,000 acres of secured wilderness that will not ever be disturbed. You can get the same experience and view the same vistas there." (*See attached,* January 20, 1998 Union Tribune "Mining's Massive Scale" (inset box "Imperial mine dredges heap of opposition")(emphasis added)). On the other hand, Lorey Cachora, Quechan archaeologist, has related that, "[a]s a physical

[6] "Because the landscape in the traditional Native paradigm itself is sacred the European has never been able to grasp the concept of sacred space, of objects created by the forces of nature having a sacred character." (Woody Kipp (Blackfeet Tribal member), December 15-22, 1997 Indian Country Today Opinion Page, "Soon, we may all live in a 'dead zone.'").

feature and a spiritual cornerstone, some sites cannot be replaced or relocated . . . Any damage, once done, can never be undone . . . Some cultural resources have been there since creation, according to Quechan beliefs, and the songs in the mountain will last forever as well. This is a very long time to regret a thoughtless act." (DEIS/R 1, Cultural Technical Appendix, p. 58).

Further, the more central a place is in the religious life of a group, the more numerous the symbolic representations it will possess. (Deward E. Walker, Jr. (1987) Protecting American Indian Sacred Geography. *Northwest Anthropological Research Notes,* Vol.22 No.2: 241-254, at 250). Accordingly, the DEIS/R 2 notes in several places the extraordinary concentration of cultural resources in this area. (DEIS/R 2, Appendix L, pp. 90, 124)("Near ubiquity of flaked stone debris in our Project area"); DEIS/R 2, Appendix L, Appendix C "Native American Consultation" ("Native American Consultation") p. 16 ("This intersection was the scene of much human activity including symbolic and ceremonial behavior" having an "extensive complex" of artifacts); Id. at 33 ("There is no question that the site was used extensively, based upon the vast quantities of lithic artifacts alone")). In fact, the greatest concentration of sites and an unusually high density of artifacts is within the very area proposed for the mine and processing area --- not in the ancillary area or along the transmission line. (DEIS/R 2, Appendix L, pp. 139, 254-256, 259, 287). It would appear the applicant chose the Quechans' most central, local religious place for its project site. The second DEIS/R observes: "[v]irtually the entire Project mine and process area is now encompassed within seven expansive sites." (DEIS/R 2, Appendix L, pp. 140-147; pp. 148-149 "Summary of Cultural Resources"). Religious activities were determined to be associated with six sites and their applicable data sets. (Id. at p. 298). Clearly, project "redesign" has done little, if anything, to avoid and reduce impacts to cultural resources and sacred sites.

Furthermore, the project will indelibly mar this central resource by permanently placing lines and form features in the area of the landscape that would not otherwise have those lines and form features, and the overall color, line, form and texture of the post-reclamation Project mine and process area features would not be reasonably consistent with the surrounding area. (DEIS/R 2, p. 4-92). Thus, meditation and teaching areas on ridges facing the Picacho Peak will be permanently blighted by the project: the project will change the topography of the site so that sacred sites historically located on the highest point of ridges will now lose that distinction, as stockpiles, 300 feet above existing grade, would be 100 to 150 feet higher than any existing landform immediately adjacent to the mine and process area. (DEIS/R 2, p. 4-89).[7] These man-made mountains would interfere with the practice of "scanning the distance," an integral component of Quechan tribal songs of creation. (Preston Arroweed presentation at Palomar College's American Indian Science & Engineering Society conference, March 27, 1998). Undeniably, this land is very important to the Quechans. In the succinct words of Wally Antone, Quechan Tribal member: "WHY GIVE US FREEDOM OF RELIGION - THEN TAKE IT AWAY." Testimony, Quechan Cultural Committee meeting, August 16, 1997 (capitals original).[8]

---

[7] Several prominent geoglyphs on ridges within and/or just outside the northern-most project boundaries, fitting the following description, and perhaps solar or equinox sites, do not appear to have been accounted for in the first or second DEIS/Rs. Yet, the vital importance of these types of locations to the Quechan is richly described in the DEIS/R 1, Cultural Technical Appendix, p. 64 ("The geoglyphs in the project area appear to have other associated functions with analogs on the Colorado River . . . such places are thought to have been used for shamanic experiences, vision quests, or other spiritual activities . . . The breaking of the white quartz would release power that along with fasting and sexual abstinence, would aid in the vision quest experience. The project area rock rings are less than one meter in diameter but are made from unexpectedly larger numbers of quartz fragments that indicate an association with power use or release.") Moreover, the DEIS/R 2 is unclear on the number and location of "plug sites" in the APE (DEIS/R 2, Appendix L, Appendix B. p. 17).

[8] A similar example, the Chinese government purports to give freedom of religion to occupied Tibet. Yet, no freedom of religion can be said to truly exist there, where, "on one side you have freedom of religion, yet you

005 **2. The Indian Pass Sacred Area Satisfies the "Centrality Test" Affording First Amendment Protection**

To receive First Amendment protection, sacred sites should meet either the "centrality" or "integrity" tests. The Indian Pass site satisfies both tests. Under the interpretation of "centrality," preservation of a specific sacred site can only be achieved if is deemed to be essential, indispensable, or requisite for the practice of a particular tribal religion. In its applications, this standard goes well beyond the meaning of religious "infringement" and borders on "extinction;" in other words, to receive First Amendment protection, American Indians must demonstrate that a change will not merely infringe, but virtually destroy a religious practice or belief. (Deward E. Walker, Jr. (1987) Protecting American Indian Sacred Geography. *Northwest Anthropological Research Notes*, Vol.22 No.2: 241-254, at 252). It has been long-recognized that the Quechans have satisfied this standard in relation to the project area. (DEIS/R 2, Appendix L, p. 61(citing to Kroeber's 1925 work)).

For example, the north-south trail segments *passing through* the project site, are part of the *trail linking Pilot Knob with Spirit Mountain, the two single most important places in Quechan religious mythology and beliefs*. The onsite trail is called "The Trail of Dreams." (Native American Consultation, p. 33). The trails linking the sacred mountains were used for actual religious pilgrimages associated with the Keruk ceremony, the most important and deeply religious of all Yuman ceremonies. (DEIS/R 2, Appendix L, pp. 62-63).[9] Many of the sites in the project area, as well as adjacent to the project area, are directly associated with these trails. A principal concern of the Quechans is that by fragmenting this Trail of Dreams, the project would significantly jeopardize the Quechans' present and future ability to travel along these trails, both physically and in dreams. (Native American Consultation, p. 34).[10] "Dreaming" in pursuit of knowledge and insight is somewhat analogous to "prayer" among other religious traditions although no direct supplication to deities are made. (DEIS/R 2, Appendix L, p. 61).

---

cannot possess a photo of the Dali Lama." (Lecture on "The Sacred Art of Preserving a Culture" - Jetsun Pema (a sister of the Dali Lama), March 20, 1998, Mingei International Theater Gallery).

[9] "The *Keruk* is a ritual held at irregular intervals to celebrate and perpetuate a ritual taught to the first men after the death of *Kukumat*, the creator of the world . . . Modern *Keruk* ceremonies are believed to be a direct evolution of the original *Keruk* . . . The *Keruk* is also a memorial service for the recently deceased." (DEIS/R 2, Appendix L, p. 62-63). The Quechan still cremate because the songs say to do so. During the Keruk, a Quechan tribal singer will take a recently deceased person along the entire known territory and from station-to-station (the traditional four stops), and accompany this person along this final path when they leave this world and enter the other world. The tribal singer acts like a benevolent "angel" to accompany the person. Just like the stations of the cross in Roman Catholicism, it is crucial for each cycle of the Keruk to be completed.

[10] "The ancestors said that if you ever destroy that trail [The Trail of Dreams], we would not be able to get to that place if we want to in our dreams. Of course, now we can get there by car, but that is not the same as traveling by dreams. Traveling by dreams is key for obtaining traditional knowledge and power and practicing our religious beliefs. . . If the Trail of Dreams was to be physically damaged, it would affect [the Quechans'] ability to dream in the future." (Native American Consultation, p. 22). The Medicine Trail (major portion of which was destroyed by Picacho Mine, *see supra*, cumulative impacts section) is one of only two key trails that allowed actual and dream travel to Avikwaame. Thus, the proposed impacts from the Imperial Mine to the only other extant trail, the Trail of Dreams, would combine to cut off both key corridors to Avikwaame. (DEIS/R 2, p. 5-16). The Trail of Dreams through the project site, is now considered "stronger" than the Medicine Trail, which lost some of its power due to Chemgold's unmitigated impacts at the Picacho Mine. (DEIS/R 2, Appendix L, p. 293).

> Dreams, then, are the foundation of the Mohave life; and dreams throughout are cast in mythological mold. There is no people whose activities are more shaped by this psychic state, or what they believe to be such, and none whose civilization is so completely, so deliberately reflected in their myths.
>
> If these tribes could express themselves in our abstract terminology, they would probably say that the phenomena of dreams have an absolute reality, but that they exist in a dimension in which there is no time and in which there is no distinction between spiritual and material.[11]

The Indian Pass area is central to the Quechan in many ways. Clearly, preserving the ability to dream will play a crucial role in maintaining Quechan cultural integrity now and in the future. Any impacts to major trail systems, such as the Pilot Knob/Spirit Mountain trail, would significantly impact the ability of the tribe's cultural leaders to maintain and develop their cultural existence and values. (Native American Consultation, p. 35).[12] Moreover, the events specific to hard rock mining, will sharply conflict with the central tenants and fundamental life modes of the Quechan Nation. For example, according to Preston Arroweed, Quechan tribal singer, during the Keruk, a ceremonial house is burned, a snake (having power) goes into the house and burns, and its power is released into the mountains. Here, "gold is the snake's blood." (Arroweed presentation at Palomar College's American Indian Science & Engineering Society conference, March 27, 1998). Thus, to unearth the blood of the snake is akin to invoking a foreboding event that will "disturb the powers" and cause something unholy to happen.[13] It is "inappropriate" to violently treat the land where the Keruk is performed. Third, as previously mentioned, the mine's waste rock will create man-made mountains that will compete with the natural mountains having strong spiritual significance to Quechan beliefs. The man-made mountains will also block the north wind, the flow of which carries sacred dust. (Arroweed presentation at Palomar College's American Indian Science & Engineering Society conference, March 27, 1998).[14] Finally, the Indian Pass area is no mere incidental shrine or even just a shrine central to Quechan spirituality; it is the capitol or center of all Quechan life - political, cultural as well as religious.[15]

---

[11] (DEIS/R, Appendix L, p. 61)(citing Kroeber (1925:755, 784)).

[12] Wisconsin v. Yoder 406 U.S. 205, 209, 217 (1972) (Supreme Court struck down a state compulsory school attendance law on free exercise grounds because of the impact that compulsory high school attendance could have on the continued survival of Amish communities because the values of modern secondary school were in sharp conflict with the *central tenets and fundamental life mode* mandated by the Old Order Amish religion).

[13] Geoglyph or intanglio designs on and off-site are sometimes in the shape of a snake. (DEIS/R 2, Appendix L, Appendix B. p. 10).

[14] It should be noted that once a desert pavement is formed, and then broken by some exterior mechanical means, deflation acts swiftly on the subsurface silt layer and, combined with concentration of sheetwash into rill cutting, serves to destroy the pavement structure. (BLM Impacts: Damage to Cultural Resources in the California Desert 1980, p. 97). Thus, the indirect impacts from the mine could in fact change the wind and its associated erosion of cultural resources at Indian Pass.

[15] One needs both dream power and practical ability to become a leader in traditional Quechan society. (DEIS/R 2, Appendix L, pp. 46, 283).

006 **3. The Indian Pass Sacred Area Satisfies the "Integrity Test" Affording First Amendment Protection**

"Integrity" is an alternate standard where religious infringement can be understood as a forced or undesired change in the customary practice of a religion. A desirable feature of a standard of integrity is that it is more open to factual investigation and less narrow than the centrality test. (Deward E. Walker, Jr. (1987) Protecting American Indian Sacred Geography. *Northwest Anthropological Research Notes.* Vol.22 No.2: 241-254, at 252). Possible factual questions would be: Is the affected practice held by members of the group to be an essential part of their religion? Are there alternatives to the affected practice acceptable to members of the group? Would removal or alteration of the affected practice impair or prevent other essential practices of the religion? This standard seems to better grasp the potential for cumulative adverse impacts to sacred geography. Id. at 251. The Quechans have also satisfied this standard. (DEIS/R 2, Appendix L, pp. 287, 291). The integrity of the Indian Pass-Running Man ATCC in relation to traditional belief systems is "clear" and the integrity of the condition of the physical ATCC itself is demonstrated by the presence in good to excellent condition of numerous archaeological features that have religious and cultural significance to the Quechan. (Id. at 287).

For example, the project area is a "strong" area to the Quechan and likely is the final resting place for their ancestors. The specific concern is that impacts from the proposed project would severely disturb those who seek to rest at this location during the final phase of their life. (Native American Consultation, p. 35). [16] Security and freedom of access to this final resting place is an essential part of their religion; no acceptable alternatives exist (i.e., these segments of the ancient trail system cannot be relocated and specific religious observances can only occur at this place);[17] and the removal of the ability to rest here before passing onto another dimension would indeed prevent an essential practice of their religion. Finally, to destroy these onsite "stations" would be to destroy the places named in tribal songs. This area is considered "critical" for seeing the "positive" side of things and countering the "negative." (DEIS/R 2, Appendix L, p. 284). Because the "way to achieve balance is through song," the destruction of the sacred sites will impair the Quechans' ability to discover, tap into and achieve individual inner and tribal social balance. (Arroweed presentation at Palomar College's American Indian Science & Engineering Society conference, March 27, 1998).

---

16 "If someone today was to pass on and go there for their final resting place and find it destroyed, it would be like hitting a wall." (Native American Consultation, p. 23). Many native cultures integrate the past and present and hold as a tenant of their religion and philosophy that the dead are regarded as present. (Jerry Mander, In the Absence of the Sacred, Sierra Club Books (1991), p. 219). The Quechan believe that the area, including that area bounded by the project, is a resting place for some of their ancestors, thus, this area cannot be materially altered as that would be akin to erasing a cemetery. Further, "[t]he places where religious events have occurred, where spiritual beings dwell, or traditional burial grounds are, are counted as particularly sacred." (FEIS and CDCA Plan, Appendix Volume D, Appendix VIII Native American, Part 3, "Traditional Native American Values" BLM September 1980, page 104)(emphasis added). This is akin to the fundamental purpose of NAGPRA: it is not that the tribes "own" the remains, rather, it is that they are "responsible" for them, and have a deeply rooted obligation to see the deceased back to the spiritual world and their particular final resting spot. (Thomas King, SCA 32nd Annual Meeting, Native American Cultural Resources Workshop comment).

17 (DEIS/R 2, p. 4-126).

007

B. Geographical Context and Extent of Boundaries of Affected Quechan Sacred Sites and Cultural Property

Typically, one of the most difficult factual questions to answer is the geographical extent of sacred sites and spaces. This is not because the Native Americans are unaware of their locations, but rather, because many, if not most, TCPs, were and are simply not meant to have lines drawn around them marking where they begin and end --- to do so can lend to some fairly bizarre and artificial constructs. (Patricia L. Parker *Traditional Cultural Properties: What You Do & How We Know*, CRM Vol. 16, 1993 (Special Issue)). In fact, "federal managers and [private archaeological consulting] firms are often guilty of taking too narrow a view of what is a cultural property." (Phil de Barros, Chair Native American Programs Committee, SCA 32nd Annual Meeting presentation). However, delineation of boundaries is not a particularly difficult question to answer here: by all ethnohistoric and ethnographic accounts, the project site is "clearly situated well within the traditional cultural territory of the Quechan Indians" (Native American Consultation, p. 5) and includes "major prehistoric travel corridor[s]." (DEIS/R 1, Cultural Technical Appendix, p. 59).[18] So here, in the context of Section 106 review, boundaries of the Area of Potential Effect ("APE") become more important than the boundaries of specific properties or features.[19]

Specifically, the subarea at issue here is the Area of Traditional Cultural Concern ("ATCC") designated in the DEIS/R 2, at p. 3-92. (*See also*, Figure 7-1 "Area of Traditional Cultural Concern," DEIS/R 2, Appendix L, p. 286). This ATCC, named the "Indian Pass-Running Man ATCC" for National Register purposes,[20] encompasses the archaeological sites in the project mine area, ancillary area, and extends beyond the project area for a length of 8.2 miles and averages 2.5 miles in width. Id.[21] Not all the

---

[18] While the evaluative criteria of 36 CFR 60.4 are appropriate for historical sites, they provide little guidance for traditional cultural properties such as the ancient trails within the project area, or perhaps more importantly, landmarks or sites with religious or traditional cultural values, like eastern views from the site to Picacho Peak. To rectify this national problem, the DOI produced National Register Bulletin 38 *"Guidelines for Evaluating and Documenting Traditional Cultural Properties"* ("National Register Bulletin 38") (1992). The Bulletin expands the definition of "historical" to include traditional cultures and traditional oral history, and "events" to include either a moment in history, events reflecting a broad pattern or theme, or an event or person in the mythological past. With regard to the latter, even landmarks such as a mountain peak could be included under Criterion "A" if it is identified in orally transmitted narratives. Accordingly, Ala Kahakai trails in Hawaii were found significant (1) under the three criteria for national historic trails outlined in the National Trails System Act; (2) under NRHP criteria A, B, C, and D; and (3) as a traditional cultural property. The study also concluded that establishing a continuous trail is physically feasible. (*See attached*, March 30, 1998 Federal Register Notice).

[19] For example, the boundaries of a mountain top on which religious practitioners seek visions could be drawn around the toes of the person sitting on it, but the area of potential effect could include everything within that person's viewshed.

[20] The Quechan have stated that there is a name for this ATCC in their language. While they have held this name confidential, the existence of a place-name implies that the area is conceived of as a specific place with physical manifestations. (DEIS/R 2, Appendix L, p. 285).

[21] Designating this size of an area is not uncommon. First, in the Helkau District in northern California, the boundary for the TCP was drawn along topographic lines that included all the locations at which traditional practitioners carry out medicine making and similar activities, the travel routes between such locations, and the immediate viewshed surrounding this complex of locations and routes. (National Register Bulletin 38, p. 18). Second, the Imperial Sand Dunes Recreation Area extends for 40 miles in length and average about 5 miles in width. (DEIS/R 2, p. 3-105). It would seem that if we can allocate this amount of land to off-road vehicle use, that it should be simple to designate an even smaller area for documented religious practice.

features within the area are religious, but some have very high religious importance. (Lorey Cachora, SCA 32nd Annual Meeting, Native American Cultural Resources Workshop comment). While the entire area along the Colorado River, sweeping north from Yuma upwards to Newberry Mountain, Needles and Laughlin, south into Mexico, and east towards Mount San Jacinto, is reflected in tribal songs and stories as being important to the Quechan, *the area roughly bounded by the currently proposed mine, is the only area at issue with this DEIS/R.*[22] This bounded area, a TCP, is specifically very important to the Quechan (DEIS/R 2, Appendix L, pp. 120, 194, 269) and retains a high degree of integrity. (DEIS/R 2, p. 3-93).[23]

While the project applicant may attempt to argue that certain sacred sites are more important than others, criteria must be established before such rankings could conceivably be considered valid.[24] For example, if the site is the scene of several rather than one required ritual, or if it is the only site where a ritual can be performed, or if it is used by several tribes rather than one, then there are grounds to argue that it may be a relatively more important site, but not necessarily more dispensable than other sacred sites. (Deward E. Walker, Jr. (1987) Protecting American Indian Sacred Geography. *Northwest Anthropological Research Notes,* Vol.22 No.2: 241-254, at 253). The Quechan sacred area at issue satisfies each of these criteria: several required rituals are performed at this site (DEIS/R 2, p. 4-126; DEIS/R 2, Appendix L, p. 292);[25] it is the only site where some of these rituals may be performed (DEIS/R 2, pp. 4-126; 5-16; DEIS/R 2. Appendix L, p. 287); and the site historically has been used by several tribes comprising the Colorado River People (DEIS/R 2, pp. 3-83 - 3-84; DEIS/R 2, Appendix L, Appendix B, p. 17). "That area proposed for the mine project is real important to us today -- we still use the area . . . We can't lose the sites out there or have that area destroyed. The sites in the project area are of the highest possible religious importance to us, particularly for travel." (Native American Consultation, p. 21) (emphasis added). To fail to protect this Traditional Cultural Property ("TCP"), a site of the "highest possible religious importance" to the Quechan, would be to wholly ignore the entire ethnographic record and deem insignificant the Yuman social attitudes toward cultural resources, which is characterized as "emphasizing conservation and preservation." (DEIS/R 1, Cultural Technical Appendix, p. 57).

---

[22] The data are insufficient to determine whether the Indian Pass-Running Man ATCC should stand alone as a potential traditional cultural property, or should be evaluated as part of a larger complex that encompasses other areas of traditional cultural concern and connecting trails. The latter approach has been supported by Lorey Cachora, who refers to the larger system as a "geography site." (SCA 32nd Annual Meeting, Native American Cultural Resources Workshop comment). Regardless, the evidence is clear, that the Indian Pass-Running Man ATCC should be treated as a significant resource. (DEIS/R 2, p. 3-93).

[23] "Views are generally unspoiled by modern intrusions. Many trail segments remain intact and retain close integrity of association with pot drops and certain rock features. In sum, the values that make the Indian Pass-Running Man ATCC eligible for the NRHP have not been severely impacted by existing modern development." (DEIS/R 2, p. 3-93).

[24] Nonetheless, the DEIS/R 2 accurately notes that, the distribution of archaeological material helps to define the ATCC boundaries, the Indian Pass-Running Man ATCC exists "somewhat independently" of those materials in that religious activities are only partially represented by the presence of archaeological remains. (DEIS/R 2, p. 3-92).

[25] BLM also recognizes that the sacred value of an area increases where a combination of sacred areas exist there and/or a system of resources is present. (BLM video, "Sacred Domain: Tribal Perspectives in Land Use," script written by Bruce Crespin). This video was created to inform BLM and Forest Service line managers on the purpose of Executive Order 13007.

008 **1. Sacred Sites Can Be, and often are, Located on other than Reservation Lands**

That these sacred sites are not located within the current boundaries of reservations is of no import.[26] Many Native American Nations, including the Navajo and Zuni, recognize sacred sites off of their reservation lands, and, their tribal concern is "as great for sites outside the arbitrary boundary line as for those within." (Phyllis Mauch Messenger The Ethics of Collecting Cultural Property: Whose Culture? Whose Property? (1989) Univ. of New Mexico Press, pp. 30, 32; *see also,* The Department of Interior ("DOI") et al *Keepers of the Treasures: Protecting Historic Properties and Cultural Traditions on Indian Lands (A Report on Tribal Preservation Funding Needs Submitted to Congress)*1990, executive summary). The Quechan did not "choose" the location or quantity of the land that became their reservation.[27] Thus, the applicant's inappropriate and thinly veiled skepticism of the Quechan belief, as stated in his February 6, 1998, correspondence to BLM, is meaningless. (*See attached* letter). The DOI has recognized that, "It would be ethnocentric in the extreme to say that 'whatever the Native American group says about this place, I can't see anything here so it is not significant . . .'" DOI National Register Bulletin 38 (1992) p. 4. The applicant is not far off that ethnocentric mark.

BLM has likewise recognized the importance of the incongruity of reservation boundaries relative to TCPs: "[Native American] responsibility toward continual creation in particular and nature in general *does not necessarily coincide with their sociopolitical territory (land allotment) but often lies in noncontiguous areas* where traditional sacred sites, ritual practices, and religious materials are located." (FEIS and CDCA Plan, Appendix Volume D, Appendix VIII Native American, Part 3, "Traditional Native American Values" BLM September 1980, page 102 (emphasis added); *see also,* Pyramid Lake Paiute Tribe of Indians v. United State Dep't of the Navy 898 F.2d 1410, 1420 (9th Cir. 1990) (a federal agency's trust obligation to a tribe *extends to actions it takes off a reservation* that uniquely impact tribal members or property on a reservation); Lynne Sebastian, *Protecting Traditional Cultural Properties Through the Section 106 Process,* CRM Vol. 16, 1993 (Special Issue)(because use areas greatly exceed the boundaries of modern reservations and communities, many undertakings on federal, state, and private lands have the potential to affect TCPs)). Finally, the California Desert Conservation Area Plan includes not only actions which might affect reservation lands, but also activities that could affect the Native American cultural and religious values during Plan implementation, because "[t]he accurate evaluation of potential impacts on cultural values can only be made within the cultural context from which those

---

[26] Executive Order No. 13007 "Indian Sacred Sites," applies to any specific, discrete, narrowly delineated location on Federal land; there is no limitation to its cumulative application or on its application to lands contained within a reservation.

[27] The U.S. government, eager to "settle" the Quechan permanently, in March of 1884, set aside 45,000 acres of land for them. Elmer M. Savilla, Along the Trail: A Story of "One Little Indian" 1996, p. 45. Previous to this time, the Quechan were characterized as "roaming free" along their traditional cultural boundaries, not living where the City of Yuma is today, contrary to the applicant's nonexpert opinion (Id. at 37-41) (*See also,* Chemgold's previous cultural experts, cited to a book which states that the townsite of Yuma and its area was laid out in the 1850's by gold miners - not the Quechan. (Appendix C Cultural Resources Inventory of Pad #5 at the Picacho Peak Mine, Cultural Technical [Sub]Appendix C, pp. 10-11)). Subsequently, the reservation was reduced to 8,000 acres, then some land was restored in 1978, but only to about 25,000 acres total. (DEIS/R, Appendix L, pp. 51-52). This "land grab" pattern by early settlers combined with confinement in reservations and "conversion" to Christianity, was sanctioned by the U.S. government, often resulted in tribes being forced to "abandon" sacred sites, and is commonly known. (National Register Bulletin 38, p. 16; David E. Stannard, American Holocaust: Columbus and the Conquest of the New World Oxford Univ. Press (1992) pp. 256-258). Accordingly, it must be noted that, the fact that contemporary use of the sacred site may have little continuous time depth (due the aforementioned factors) does not make the site ineligible for the National Register. (National Register Bulletin 38, p. 16).

values are derived." California Desert Conservation Area Plan ("CDCA Plan") Chapter 3 "Native American Element", BLM 1980, p. 29.[28]

Second, that few "monuments" to the Quechan religion exist, *on or off* of the reservation, is of no relevance in identifying a TCP. In fact, it is undisputed that there may be nothing observable to the outsider about a place regarded as sacred by a Native American group: many TCPs look like "very little on the ground." National Register Bulletin 38 (1992) pp. 4, 9, 12 (a property may be defined as a "site" as long as it was the location of a significant event of activity, *regardless of whether the event or activity left any evidence of its occurrence*). It is well known that "permanent structures" play a relatively minor role in most traditional Native American views of sanctity. (Robert S. Michaelsen (1985) American Indian Religious Freedom Litigation: Promise and Perils. *Journal of Law and Religion*, 3(1): 47-76, at 56; (DEIS/R 1, Technical Appendix, pp. 69-70)). This holds true for the Quechan as well. (DEIS/R 2, Appendix L, p. 85). Regarding the practice of religion: "We don't do it where and when [the non-Indians] want us to." (Arroweed presentation at Palomar College's American Indian Science & Engineering Society conference, March 27, 1998). [29]

Moreover, that Mr. Baumann does not have access to a "complete catalogue" of Quechan sacred sites is not unusual and is of no moment: Native American groups frequently withhold specific information, unless or until, there is a direct threat to traditional values and culturally significant places. (BLM Manual, III-A, p.10). BLM acknowledges that, "Field office managers should be aware that few sacred sites are actually known to the agency at this time . . . Field office managers should first assume that known sites do not constitute all sacred sites." (BLM Informational Bulletin No. CA-98-37, March 9, 1998). Simply put, public knowledge of what is meant to be sacred and carefully curated knowledge of a few Native American experts could constitute an impact sufficient in magnitude to destroy the sanctity of a site for a Native American community. (FEIS and CDCA Plan, Appendix Volume D, Native American VIII, Part 5, "Sensitivity and Potential for Mitigation," p. 109). Finally, consider Walden Pond, Donner Pass, Plymouth Rock --- all landforms and landscape features that have very specific but not empirically obvious historic associations. And consider Civil and Revolutionary Battlefields, the Chisholm Trail, and the Trinity Test Site where the first atom bomb was exploded; all are "empty" landscapes with excellent historic credentials. None of these sites could be identified and evaluated were it not for the availability of historic records, yet no one would deny their historic importance. "To doubt the historic importance of [TCPs] because "you can't see them" and because they can be identified and evaluated only through oral history is to claim that people who don't have written history don't have history." (Lynne Sebastian, *Protecting Traditional Cultural Properties Through the Section 106 Process*, CRM Vol. 16, 1993(Special Edition)).

---

[28] *See also, attached,* February 9, 1997 New York Times "For Indians, Latest Fight is Over the Environment," ("A rekindled interest in traditional tribal ways is also helping to inspire tribes' participation in environmental affairs. Many young Indians are taking part in vision quests and other ceremonies conducted at traditional sacred sites outdoors. Many of these sites are off the reservation and threatened by development." (emphasis added)).

[29] For example, after the Quechan Keruk, or "release of the spirit" ceremony, within hours after the one to four day ceremony, little if any sign will remain of the pyre site and the ground cover will show little sign of what occurred. (Elmer M. Savilla, Along the Trail: A Story of "One Little Indian" 1996, pages 76-77). On the other hand, the careful placement and present existence of geoglyphs on the project site *is* a more "permanent" structure, but are of a very different nature than, say, a Protestant Church.

009 **2. The Remarkable "Context" of Indian Pass is Vital to the Site's Integrity for Both Religious and Recreational Uses**

Furthermore, one must understand that the exceptional context of the area bounded by the project site is also a vital part of the sacred site. "Context" may include the relative remoteness of a sacred site from settlement and other disturbances, as well as positioning relative to one or more of the cardinal directions. For example, a common contextual requirement may be the view to the east of the first rays of dawn. Undisturbed views of other awe-inspiring scenes are frequently described as essential contexts for sacred sites. To the degree that such contexts are altered, they can erode or eliminate the ritual efficacy of sacred sites. (Terry S. Maley, *Geological Heritage Conservation in the Public Lands,* Background Paper, 1997, page 10.) In the words of one of Walker's principal Native American teachers, "The spirits may go away." (Deward E. Walker, Jr. (1987) Protecting American Indian Sacred Geography. *Northwest Anthropological Research Notes,* Vol.22 No.2: 241-254, at 253).

According to the Quechans, disruption of current views of the skyline would effectively prevent any future religious use of this site which, from the tribe's perspective, would be immensely detrimental to their religious beliefs and practices. (Native American Consultation, p. 34).[30] The characteristics of the ATCC cited as important by the Quechan in contributing to the area's special power are a "sense of solitude and the expansive views, particularly in the direction of Picacho Peak and Picacho Basin." (DEIS/R 2, Appendix L, p. 294). The Quechan say there are times at dawn when lighting and ground fog conditions viewed from the ATCC combine to create a phenomenon of special importance. Id.

Recreational users of the Indian Pass area also attest to its extraordinary context. I myself have personally experienced several awe-inspiring mornings watching the sun rise over Picacho Peak, connecting with the incredible quietness and admiring the clearest of night skies at the site and can personally attest to the uniqueness of the location.[31] The Imperial Project Mine and Process Area is located along Indian Pass Road at the gateway to the Indian Pass Wilderness Area, the Picacho Peak Wilderness Area and the Indian Pass Area of Critical Environmental Concern.[32] (*See,* DEIS/R 2, Appendix L, Figure 1-4, p. 8).

To reach each of these three important areas, religious and recreational users would have to pass through the proposed Imperial Project. Instead of being welcomed with breathtaking vistas, one would view chain link fences topped with barbed wire. (DEIS/R 2, Appendix L, p. 7). The clear night skies would be veiled in dust and dulled by the Project's "sky glow" of industrial uses. (DEIS/R 2, pp. 4-88 - 4-89). The otherwise clear, sweet air would be filled with the odor of diesel fuels. Id. Furthermore, no quantitative assessment of possible visibility reductions from the proposed action have been undertaken.

---

30 According to Peter Nabokov, associate professor in the American Indian Studies Program at UCLA, "[w]e know that Indian history is anchored to a sense of place, what the French call 'sites of memory,' . . [w]hen Indians like the Quechans make these claims, these are not spurious claims to rattle the chains of white man. They're speaking from the heart, from a traditional imperative." (*See attached,* February 9, 1998, Los Angeles Times article, "Rights and Rites Clash in Mine Plan.").

31 Although BLM does not have adequate quantifiable use data for the Indian Pass recreation corridor, "it is possibly the most heavily used dispersed recreation area east of the intensely used Imperial Sand Dunes Recreation Area." (DEIS/R 2, p. 3-105). Indian Pass Road is presently being considered for inclusion in BLM's National Backcountry Byways program, BLM's contribution to the larger National Scenic Byways program, intended to increase the public's awareness of scenic corridors that are "off the beaten path." (DEIS/R 2, p. 3-109).

32 The Imperial Project is also unique due to nearby designated Desert Tortoise Critical Habitat to the north.

Id. As a hiker, camper and naturalist, I will feel a profound sense of loss if the "informal" campsite along Indian Pass Road that I use, is converted to the West Pit mine. Curiously, the DEIS/R 2 fails to acknowledge that two campsites exist along the northern edge of Indian Pass Road. The only one mentioned in the DEIS/R 2 is about two and a half miles from Ogilby Road. (*See*, photo-simulation of proposed action from informal camping area, DEIS/R 2, Figure 4-13). On the other hand, the obliteration of the second campsite, the one I and many others use, (about five and a half miles from Ogilby Road), is curiously, completely omitted from environmental analysis (it would become part of the West Pit mine). (DEIS/R 2, Figure 3.18 "Location of Key Observation Points for Visual Evaluations"). *These proposed adverse impacts to recreational resources lack conformance with the BLM Class II visual objectives for this Class L-designated area.*

Recently, San Diego Superior Court Judge Judith McConnell has found the second EIR prepared for the proposed Eagle Mountain landfill to be deficient for its inadequate mitigation for desert tortoises and the potential adverse indirect impacts this large landfill would have on the nearby Joshua Tree National Park. The Judge ruled that the company hoping to run the dump, Mine Reclamation Corp., failed to show how the park would be shielded from the impact of a sprawling industrial facility that would be operated for decades. Joshua Tree Superintendent, Ernest Quintana, hailed the ruling as, "an accurate assessment of the environmental hazards" and "a reminder that national parks are special areas that are to be maintained in a natural state forever."[33] Just as the special context of national parks must be observed, so must that special context supporting Native American sacred sites.

010 **C. Based on Information in the DEIS/R 2, BLM Must Recognize the Quechan Nation's Vested & Valid Fifth Amendment Property Interests in the Indian Pass Area**

The proposed project may violate the property rights of the Quechans through the Fifth Amendment.[34] In the frontispiece of a Mining Treatise by John Leshy, now Chief BLM Solicitor, is the following quote that Mr. Leshy must have felt to be a particularly powerful passage, when including it in that prominent place in his text,

> [T]here are many arts and sciences of which a miner should not be ignorant . . . Lastly, there is the Law, especially that dealing with metals, that he may claim his own rights, that he may undertake the duty of giving others his opinions on legal matters, that he may not take another man's property and so make trouble for himself, and that he may fulfill his obligation to others according to the law. (Georgius Agricola, De Re Metallica (1556) Herbert C. and Lou Henry Hoover translation, 1912)(emphasis added)(as quoted in, John Leshy, The Mining Law: A Study in Perpetual Motion (1987) Resources for the Future, Inc., Wash D.C., frontispiece)

Treaties have long-recognized, "The utmost good faith shall always be observed towards the Indians, their lands and property shall never be taken form [sic] them without their consent . . ." [CITE] Moreover, the Imperial Project is, "a matter of *cultural conflict over the meaning of land ownership.*"

---

[33] *See attached.* February 20. 1998 Los Angeles Times article "Judge Rejects Plan for Landfill Next to Joshua Tree Park."

[34] The term "property" may be offensive to some Native Americans who dislike the implication that places of cultural, historic, ancestral and spiritual value are "property," presumably to be bought and sold. Nonetheless, it is "historic property" that the National Historical Preservation Act is designed to protect and "private property" that the Fifth Amendment to the U.S. Constitution recognizes.

Pauline Owl, Chairperson, Quechan Cultural Committee, February 10, 1997, correspondence to BLM (emphasis added). To deny Quechan access to a particular sacred site, is analogous to preventing a non-Indian from entering his or her church, temple or cemetery and placing an immovable physical obstacle in the only road leading there. The oft-quoted words of Chief Seattle of the Duwamish peoples, in answer in the winter of 1854 to an offer of treaty with the U.S., presaged the intent of native peoples to maintain easements of access across "known" areas or territories:

> We will ponder your proposition, and when we have decided we will tell you. But should we accept it, I here and now make this the first condition: That we will not be denied the privilege, without molestation, of visiting at will the graves of our ancestors and friends.

The law of easements may be of assistance in substantiating and delineating the boundaries of relevant Quechan sacred lands. The boundary definitions of an easement depend on the character of the land. Concerned Citizens of Brunswick County Taxpayer's Ass'n 329 NC 37, 45-49, 404 SE 2d 677, 682-685 (1991) (slight deviations in use of beach roadway through sand dunes did not defeat claimed prescriptive easement); Silverstein v. Byers 114 NM 745, 749-750, 845 P2d 839, 843-844 (Ct. App. 1992) (a quarter-mile deviation in use of roadway caused by canyon washout did not break continuity of line of travel). Thus, the various trails and ceremonial points along the trails bisecting the site fit the established boundary definitions for an easement. The sacred areas, including access thereto, may be a vested, protected property right under several easement theories.

011

1. Quechan Prescriptive Easement

The doctrine of easement by prescription is designed to "stabiliz[e] long continued property uses." (3 R. Powell & P. Rohan, The Law of Real Property, Para. 413, at 34-105 (rev.ed. 1987)). Pursuant to this model, a tribe or community of Indian practitioners, based on long-standing use, might have an interest akin to an easement by prescription in a sacred site and could protect that interest against encroachment in the courts.[35] (Personal Communication - Bernard Siegan, Professor of Constitutional Law, University of San Diego, March 1998). After all, prescriptive easements are a well-recognized method for enforcing historic access and trail use. Prescriptive easements don't just "happen." The claimant must satisfy the elements of the claim and perfect the easement. The Quechan Nation has done so and is entitled to its property right to physically access the sacred areas as well as to spiritually access these areas. The right is a physical, spiritual and "intellectual" property right that cannot be "taken."

An easement holder, as the owner of a property interest, is entitled to protection from acts of third parties that interfere with the enjoyment of the easement. Restatement of Property §§ 450(b), 510-511 (1944). Such protection is available against third parties to the same extent it is available against the servient estate owner. For example, an easement holder may recover damages from or obtain an

---

[35] Ira Lupu, Where Rights Begin: The Problem of Burdens on the Free Exercise of Religion, 102 Harv. L. Rev. (1989) 933, 970-977. The property interest in an easement, and its common law basis, may at first blush be perceived as "weak" because of its seeming detachment from religion and from competing theories of religious liberty. Yet, in fact, this turns out to be its very strength. The common law principles is in effect a religion-neutral veil behind which judges in free exercise cases can access burdens on religion from a more objective vantage point than is otherwise available. (Id. at 971; US on Behalf of Zuni Tribe of New Mexico v. Platt 730 F.Supp. 318, 324 (1990) (where court found tribe had perfected a prescriptive easement across BLM and private lands: "In reaching its decision, the Court does not base its ruling on any religious or First Amendment rights to the land in question. The evidence of the religious purposes of the Zuni pilgrimages was admissible only to the extent it demonstrated when and how the land in question was used.")).

injunction against third parties who construct a building encroaching on the easement area, use the easement without authorization, or hamper travel by parking cars on the easement area. Similarly, the easement holder is entitled to lateral and subjacent support and may recover from a third party who withdraws such support. (Bruce & Ely, The Law of Easements and Licenses, Warren, Gorham & Lamont, 1995 ed., ¶ 8.05, p. 8-47) Yet, the property rights issue of what kind of easement the Quechans have acquired has not been addressed in the DEIS/R 2 despite the substantive evidence in the record supporting each element of this theory.

Moreover, no evidence in the record indicates that the Quechan have abandoned, sold or been compensated for their easement interest. First, the Quechan did not participate in the Treaty of Guadalupe Hildalgo in 1848, where the U.S. claimed to have taken title to whatever title interest Mexico had in what is now the desert southwest. Second, the occupation of the Quechan's "known" area by the U.S. military was accomplished without a Treaty of Cessation. Jack D. Forbes Warriors of the Colorado: The Yumas of the Quechan Nation and Their Neighbors (1965) Univ. of Oklahoma Press, p. 339 (quoting from the *Annual Report of the Commission of Indian Affairs for 1872*, p. 58); *see generally*, George E. Anderson, et al, Treaty Making and Treaty Rejection by the Federal Government in California, 1850-1852 (1978) Ballena Press. Presently, BLM Staff is unaware of any governing treaty concerning the Quechan interest in the subject lands. (Personal Communication - BLM Staff, March, 1998).[36] Third, the Quechan Nation's lands were taken from them without compensation. Jack D. Forbes Warriors of the Colorado: The Yumas of the Quechan Nation and Their Neighbors (1965) Univ. of Oklahoma Press, p. 339. Thus, the Quechan prescriptive easement, a property right of access to their sacred sites, is a valid property interest which must be respected by the federal government including BLM.[37]

The DEIS/R 2 admits that the proposed mine and supporting operations will severely, and irreplaceably, encroach on traditional Quechan lands and that the mine itself will rip through the ancient trails thereby hampering both physical and spiritual travel ("teleportation") by the Quechan. *The proposed mine's mineral extraction pits, will act like giant sink-holes consuming significant portions of the ancient trails traversed by the Quechan.* This will irrevocably curtail Quechan physical and spiritual pilgrimages along these routes. Similarly, the proposed project will likely adversely impact the lateral and subjacent support of specific culturally significant areas. Thus, the Quechan, as a rightful easement holder, may recover damages or obtain an injunction from either the government or the third party, here Glamis Imperial Corporation or its parent, Glamis Gold, Limited.[38]

012 **a. General Rule Disallowing Prescriptive Easements against the Government is Inapplicable**

The general rule is that absent an enabling statute, one cannot have a prescriptive easement against the federal government or a state. (Bruce & Ely, The Law of Easements and Licenses Warren,

---

[36] That treaties were not used to "control" the Quechan, may indicate that they were largely a (comparatively) "nonhostile" tribe. (Lorraine M. Sherer Bitterness Road: The Mojave: 1604 to 1860 Ballena Press 1994, pp. Xi, 1, 94-95).

[37] The General Land Office ("GLO") was created in 1812 to be responsible for the survey and sale of public lands. BLM, the current manager of the lands in question, was created in name by the merger of the GLO and the Grazing Service in 1946. (U.S. DOI, BLM, Opportunity and Challenge: The Story of BLM (Sept. 1988) pp. 277, 284). BLM has been the "primary" manager of the lands in question since the GLO days. (Personal Communication - BLM Staff, March 1998)).

[38] For the purpose of this comment letter, the name "Glamis Imperial" will generally encompass both entities.

Gorham & Lamont, 1995 ed., ¶ 5.02[4], p. 5-12). This reflects the long-established principle *nullum tempus occurit regi* which literally means "time does not run against the king." However, exceptions to the general rule may in fact apply to this matter.

First, a claimant to an easement may assert a prescriptive right against another person in possession under the sovereign's title, and although seemingly inconsistent with the view that no prescription runs against the government, it has been suggested that a grantee from the government takes title burdened with a prescriptive easement that ripened during the period of public ownership. Id. Since the Quechan have indisputably used the area in question for thousands of years prior to the federal government's claim of title, and further ripened their claim during the period of public ownership, if Glamis Gold comes in possession of the land under BLM's title, under this theory, the Quechan have established a valid prescriptive easement.

Second, the federal government may have knowingly waived the general rule disallowing prescriptive easements (related to sites like Indian Pass), when President Clinton enacted Sections 1 and 2 of Executive Order No. 13007, issued May 24, 1996, protecting sacred sites on federal lands. Section 1 of the Order states that each federal agency with responsibility for the management of federal lands shall *accommodate access to* and ceremonial use of Indian sacred sites by Indian religious practitioners and *avoid adversely affecting the physical integrity of* such sacred sites. Section 2 of the Order requires agencies to promptly implement procedures for the purposes of carrying out the provisions of section 1 of the Order. Similarly, BLM has stipulated in a signed Memorandum of Understanding that, "[t]he Bureau will allow Native American free access to sites of religious and ceremonial significance." (FEIS and CDCA Plan, Appendix Volume D, Appendix VIII Native American, Part 2, "MOU Pertaining to BLM, California Policy for Native American Concerns and Cultural Resource Management" BLM, September 1980, page 98). It would be facetious for BLM to offer that free access to Native Americans, honoring the intent of the MOUs, when that sacred site itself has been obliterated.

Third, the general rule may not apply to Native American nations as the sovereign status of Indian tribes and special provisions of law set Native Americans apart from all other U.S. populations and define a special level of Federal agency responsibilities. (BLM Manual, I-1 and III)("BLM has special obligations towards Native Americans' land and resource-related cultural and religious issues, *unmatched in all of the Federal Government.*" (emphasis added)). Moreover, there are strong arguments, based on Morton v. Mancari 417 U.S. 535, 541, 543 (1974) and its progeny, that such protections are not religious accommodations at all, but constitute permissible aspects of the government-to-government relationship between the federal government and tribes. (Craig Alexander, Office of Tribal Justice U.S. Department of Justice, Protection of Indian Sacred Places and the Religious Accommodation Doctrine, paper prepared for the Sovereignty Symposium X, June 9-11, 1997, pp.11, 14; Executive Memorandum of April 29, 1994, *"Government-to-Government Relations with Native American Tribal Governments"* (President requested that the heads of all Federal agencies develop a "one-on-one" relationship with all federally recognized Indian tribes); State of Montana et.al. v. U.S. EPA, Conf. Salish and Kootenai Tribes 98 Daily Journal D.A.R. 2077 (court applied precedent that Indian tribes retain "inherent sovereign power" to regulate non-members on non-Indian land within a reservation when the regulation relates to conduct that "threatens or has some direct effect on the political integrity, the economic security, or the health and welfare of the tribe.")).[39] This "government-to-government" relationship may mean that in fact, "the king may run time against the other king."

[39] Under Morton and its progeny, government action that accommodates tribal religious practices generally is permissible, particularly where the challenged practice is "deeply embedded in the history and tradition of this country." Alexander argues that given the special relationship between the federal government and federally recognized Indians tribes, that accommodation of tribal sacred sites,

Fourth, and importantly, Lyng *does not preclude*, and *in fact supports*, the establishment of a prescriptive easement here. The undisputed facts and the government's own investigation in Lyng strongly support the conclusion that the Indian tribes and their members *would have had a strong easement claim* against a private landowner under the doctrine of easement by prescription, *had the Plaintiffs raised the theory*. Ira Lupu, Where Rights Begin: The Problem of Burdens on the Free Exercise of Religion, 102 Harv. L. Rev. 933, 970-977 (1989). Moreover, the proposition that the law generally does not create easements against the government, does not undercut the argument in the specialized free exercise context. Id. Here, the argument is not that the easement exists as a matter of law; rather it is that it would exist against a private landowner, and thus the free exercise clause is triggered when the government acts against the interest that the Indians have. (*See*, 3 R. Powell & P. Rohan, The Law of Real Property, Para. 413, at 34-136.8 (rev.ed. 1987)).[46]

013

b. The Quechan Satisfy All Elements for a Prescriptive Easement

Prescriptive easements for Native American tribes have been previously acknowledged by the courts. In Confederated Salish, the court found a right-of-way across white settlers' land was subject to a prescriptive easement held by individual members of the Native American tribes and that the tribes had perfected this right to use the right-of-way independent of the right of the U.S., and that the purpose for which the U.S. and the tribes might use the truck trail could not properly be limited. Confederated Salish & Kootenai Tribes v. Vulles 437 F2d 177, 181 (9th Cir. 1971). In fact, the Quechan satisfy each of the elements to establish prescriptive use. In the majority of jurisdictions, proof of "open, continuous, and uninterrupted use" for the prescriptive period, without explanation, raises a rebuttable presumption that the use was adverse and under a claim of right. (Bruce & Ely, The Law of Easements and Licenses Warren, Gorham & Lamont, 1995 ed., ¶ 5.02[2], pp. 5-7 - 5-11). In California, by analogy to the statutes governing adverse possession, a prescriptive easement vests after 5 years of use. Moreover, a TCP is subject to the same general time threshold of other historic properties: 50 years of use. (Patricia L. Parker *Traditional Cultural Properties: What You Do & How We Know*, CRM Vol. 16, 1993 (Special Issue)). The DEIS/R 2 concedes that religious use of the area has occurred for "many hundreds of years." (DEIS/R 2, Appendix L, p. 292). The "period of significance" would extend from "Patayan 1 times [1,200 BP] through the present." (Id.) Ethnographic reports, archaeological features and documentation thus supports that these statutes of use have been satisfied by the Quechan Nation.

---

simply are not religious preferences in the usual sense of that term. Rather, they are political preferences conferred by the federal government on a quasi-sovereign in furtherance of the federal government's duty to promote tribal self-determination, which includes enabling the tribe to protect the culture that helps to define it. Such accommodations, even if in some senses they may be characterized as religious, are political ones under Morton because they are reasonably designed to further the cause of Indian self-government.

Craig Alexander, Office of Tribal Justice U.S. Department of Justice, Protection of Indian Sacred Places and the Religious Accommodation Doctrine, paper prepared for the Sovereignty Symposium X, June 9-11, 1997, p. 13.

[46] Much can be said, beginning with the claims of history, in support of the common law approach to basic civil and property rights suggested here. The approach has eminently respectable antecedents. (Ira Lupu, Where Rights Begin: The Problem of Burdens on the Free Exercise of Religion, 102 Harv. L. Rev. 933, 967-970 (1989)).

014 i. Quechan "Open Use"

First, the DEIS/R 2 admits that Quechan use of the area has been "open." Quechan historical use of the site, well-noted in lore, ethnographic histories, and material culture, has charged the federal government with constructive notice of Quechan use. United States on Behalf of Zuni Tribe of NM v. Platt 730 F.Supp. 318, 322-323 (D. Ariz. 1990) (finding that quadrennial pilgrimages by Zuni Indians, to the mountain area believed to be their place of origin during summer solstice, were common knowledge in the community, thus satisfying open and notorious requirement). Moreover, neither actual occupancy, cultivation nor residence is needed to constitute actual possession for prescriptive easement purposes. (Id. at 322). Finally, the presumption of "adverse" use does not need to apply generally, where, as here, an easement is claimed over vacant and unenclosed land.[41]

015 ii. Quechan "Continuous Use"

Second, Quechan religious use of the area has been "continuous." The ethnographic and archaeological information indicate that the site has "a long and continuing history of religious use by the Quechan and their ancestors." (DEIS/R 2, Appendix L, p. 284). Moreover, the Quechan "would like to continue religious use." (Id. at p. 292). [42] Further, it is not necessary that a use be constant or daily for it to be deemed continuous and the existence of time between acts of usage does not necessarily destroy continuity of use. (Restatement of Property § 459 cmt. b (1994); Confederated Salish & Kootenai Tribes v. Vulles 437 F2d 177, 180 (9th Cir. 1971) (use of route by Zuni Indians for religious pilgrimage every four years deemed continuous); Homan v. Hutchinson 817 SW2d 944, 948 (Mo. Ct. App. 1991) ("The term 'continuous' refers to the *behavior of the claimant* and is to be construed reasonably, requiring use often enough to constitute notice of the claim and to show there *was no break in the claimant's state of mind*." (emphasis added)); Wehde v. Regional Transp. Auth. 237 Ill. App. 3d 664, 680-681, 604 NE2d 446, 458 (1992) ("For a use to be continuous, it is critical that there be *no break in the attitude of mind of the claimant or the claimant's predecessor which would amount to a recognition of subordination to the servient owner's consent* or an abandonment of the use in response to the servient owner's demand." (emphasis added)). Thus, there has been no break in the Quechan use of this land under either approach.

In many native people's religions, few tribal members actually make medicine at the most powerful sites, yet, the entire tribe's welfare hinges on the success of the individual practitioners. Lyng v. Northwest Indian Cemetery Protective Ass'n (1988) 485 U.S. 439, 462 (Brennan dissent).[43] Just as in western religions, not everyone is a priest or rabbi. Thus, the caselaw rebuts the applicant's charges that the Quechan rights are lessened by alleged frequent physical nonuse of certain sacred areas for several

---

[41] One court explained that, "where lands are open, undeveloped and unenclosed they are in a natural state and frequently in large tracts, and owners may not know or care that others use their land casually." Kurvant v. 12-22 Woodland Ave. Corp., 138 NJ Super. 1, 20, 350 A2d 102, 112 (Law Div. 1975), aff'd. 150 NJ Super. 503, 376 A2d 189 (App. Div. 1977). The DEIS/R 2 supports this theory, "[t]he area is generally regarded as open space, providing desert habitat for wildlife and dispersed recreational opportunities." (DEIS/R 2, p. 4-104).

[42] That *reported* usage of the Indian Pass site might indicate a somewhat less frequent use of the sacred area than prehistoric time, is irrelevant and has not been established in the record.

[43] BLM recognizes that in most cases, Native American non-secular practices are *solitary or involve only a few people for a short period of time;* moreover, in most cases, BLM will not even be aware that the activity is or has occurred. (BLM Informational Bulletin No. CA-98-37, March 9, 1998).

years by "large" numbers of people.[44] Moreover, BLM itself recognizes that, "[s]ome sacred sites have established religious significance even though they may be visited only every few years or for some special ceremonial purpose that does not occur on a "regular" basis. Some sites are never visited because the nature of the place or event that occurred there is considered to be too powerful for a person to survive physically or spiritually." (BLM Informational Bulletin No. CA-98-37, March 9, 1998). Quechan use is consistent with this approach: the Quechan Creator ("one who lies up above") left two "leaders" who guide today's "followers," who teach today. (Lorey Cachora, SCA 32nd Annual Meeting, Native American Cultural Resources Workshop comment).

The facts also support this claim. The DEIS/R 2 provides evidence that there is "no break" in the Quechan's mind that this site has been continuously used by their ancestors and will be used by future generations: "[d]ream travel, trails, and spirit mountain are significant parts of this spiritual life among *contemporary* Yuman peoples." (DEIS/R, Appendix L, pp. 60-61)(emphasis added); Jackie J. Snider The Quechan Indians: Cultural Aspects of A California Indian Tribe (1986) SDSU Pub., p. vii (today the Quechan are preserving their religious ceremonies); Jack D. Forbes, Warriors of the Colorado: The Yumas of the Quechan Nation and their Neighbors (1965) Univ. Oklahoma Press, p. 340 (the Quechan have preserved to this day their tribal identity, much of their religion and folklore, and their numbers are on the increase)). Similarly, members of the Quechan Tribe have been explaining the religious significance of the area for many years *predating* the Chemgold (now Glamis Imperial) proposal. (*See attached*, October 26, 1989, Imperial Valley Press article "Ancient grounds desecrated"). Lorey Cachora has often emphasized the need to retain this particular sacred area as a "teaching" area, to ensure the spiritual education of future practitioners.[45] "Indian tribes are living cultures, fundamentally different in character from other components of American society, that can continue to be strengthened only through the perpetuation of their traditions. Tribes therefore, are re-introducing ceremonies, teaching languages, and seeking the return and culturally appropriate treatment of tribal objects and the remains of their ancestors." (DOI, et al *Keepers of the Treasures: Protecting Historic Properties and Cultural Traditions on Indian Lands (A Report on Tribal Preservation Funding Needs Submitted to Congress)*1990, Part IV: Findings and Recommendations).

Further, that there may be some "break" in active physical religious use of some areas is inapposite and quite understandable,[46]

---

[44] *See also attached* excerpt, Tom Hayden, The Lost Gospel of the Earth 1996, Sierra Club Books, page 129, ("By 1900 the official histories declared the extinction of the Gabrieleno, who had disappeared more suddenly and completely than the Chumash. In the past two decades, however, the tribe has reappeared, and now numbers approximately three hundred. As part of their reemergence, they tend and guard a sacred spring in West Los Angeles, once the center of a Gabrieleno village and now the grounds of University High School. They claim the original human settlement of Los Angeles was Kuruvungna, now the property of the state university at Long Beach. Both sites are the targets of development.") *See also generally*, Native American Heritage Commission v. Board of Trustees (1996) 51 Cal.App.4th 675.

[45] "Sacred sites can be springs, mountains, caves, rock shelters, tipi rings, rock rings, petroglyphs and pictograph sites, ground figures, or any place on the public lands that transformation from the secular to the non-secular occur. That includes places where Indian religious activities *have occurred, are occurring, or could occur in the future*." (emphasis added)[CITE]; (Lynne Sebastian, *Protecting Traditional Cultural Properties Through the Section 106 Process*, CRM Vol. 16, 1993 (Special Edition)("We believe that preservation efforts for [TCPs] should be focused on those properties that are or could again become part of the cultural repertoire of a living community.")

[46] Tribal religious practices were systematically undermined by government policy and practice in the late nineteenth and first half of the twentieth century. Conversion efforts were common in the 1930's and 1940's as also were efforts to discourage and suppress distinctive Native American practices, beliefs and languages. Despite this record, however, various native religious traditions have not only survived, but have recently shown signs of

It is true that unlike their grandparents many young Indians did not grow up with the feelings they now have. Many of the young activists I have met were born on reservations but fled early to the cities. They did so for the same reason as many other people: to be nearer the action. Once in the cities, however, they did not fit in. Aside from the racism directed at them, they found they could not merge with the speed and abstraction of urban life . . . A large percentage eventually returned to their reservations, sometimes experiencing a reawakening of pride in their heritage. They began to accept themselves as Indians and a desire grew to improve the circumstances of their people. It is then they sought out the old people and, for the first time, they listened. (emphasis added).[47]

This phenomenon is echoed in the Quechan themselves, "A Quechan tribal member by birth and being associated with the past Quechan elders who gave us the knowledge of what was the old world, we were told to leave behind the ancient prejudices and manners and become that individual of all nation and melt into the new race of men and women, whose labor and prosperity that will one day cause great change in the world . . . Now, we try to devote our attention to domestic affairs and have enhanced our social position and we have become a stanch [sic] defender of the rights of Quechan Indian Nation and supporter of a movement in protest of the destruction in Native American religious cultural resources." Lorey Cachora correspondence to Terry Reed, BLM, April 23, 1997. The mining applicant's bogus claim is also further rebutted by recent physical use of the trail system by the Quechan, and other Nations. (DEIS/R 2, Appendix L, pp. 122-123, 272. *See also attached,* newsletter item, "Quechan Ancient Trail Spirit Run Feb 8-11 [1997]" (some Quechan believe this run turned the boys into men, acting as a rite of passage to adulthood and reconfirmed the Quechan connection between man and animals)). There is also evidence that the geoglyphs, some in very good condition, are being cleaned and cared for to this day. (Personal Communication - BLM Contract Archaeologist, March 1998). Other site configurations and artifacts suggest possible Quechan use continuing through relatively recent times. (DEIS/R 2, Appendix L, pp. 181, 197, 206, 216, 239, 262, 284). [48] The property right is not extinguished.

016

iii. Quechan "Uninterrupted Use"

Third, Quechan use of the area has indeed been "uninterrupted;" the federal government had not erected physical barriers or otherwise used the servient land in such a way as to interrupt Quechan use during the period of prescription. (Confederated Salish & Kootenai Tribes v. Vulles 437 F2d 177, 180 (9th Cir. 1971)(if claimant used the right-of-way whenever s/he desired, without interference by the owner of the servient estate, the use was deemed continuous and uninterrupted; *cf.* Serrano v. Grissom

---

resurgence. (Robert S. Michaelsen (1985) American Indian Religious Freedom Litigation: Promise and Perils. *Journal of Law and Religion*, 3(1): 47-76, at 50-51; H. Marcus Price Disputing the Dead: U.S. Law on Aboriginal Remains & Grave Goods. (1991) Univ. of Missouri Press, pages 8-18). Yet, the DEIS/R 2 fails to explore these relevant phenomena. Finally, to an ancient people, a decades-long intermission is nothing, and generally considered a "short period of time." (Elmer M. Savilla, Along the Trail: A Story of "One Little Indian" 1996, page 13).

[47] Jerry Mander, In the Absence of the Sacred, (1991) Sierra Club Books, p. 213.

[48] The DEIS/R 2 does not determine how one could differentiate between modern "rockhound" activity and possible modern Quechan spiritual use of the features onsite. In fact, "[r]ockhounds and prehistoric Native Americans shared many of the same lithic reduction goals." (DEIS/R 2, Appendix L, p. 262). Thus, while the DEIS/R 2 states that "[w]hite impact crush marks on patinated pieces suggested the possibility that they were more recent," the document does little to analyze the source of the use. Id.

213 Cal. App 2d 300, 305-306 (1963) (servient owner plowed up road and farmed land)).[49] Based on the satisfaction of each of the elements, the Quechan nation has shown a vested property interest in sacred sites on this area of BLM land, as well as access to them. Because the project, as proposed, would impair and destroy the Quechan's property interests therein, it would constitute *an actionable taking*.

017

2. Quechan Easement by Implication

Moreover, the Quechan may be able to establish an easement by implication (a "quasi-easement") via a prior right to use the land since Quechan ancestral use pre-dates the formation of the United States and its federal government. (*See, infra* section on treaties). The long-standing spiritual commitments and accompanying land uses documented in the DEIS/R 2 and elsewhere, would be sufficient to satisfy a court that for at least several hundreds of years, the tribes would not have conceded the authority of the United States to evict them, constructively or otherwise, from the land. Indeed, this and other Indian land-use claims might fit the ancient English common law formula of use continuing for so long that, "the memory of man runneth not to the contrary." Ira Lupu, Where Rights Begin: The Problem of Burdens on the Free Exercise of Religion, 102 Harv. L. Rev. 933, 975-976 (1989). The common law approach, as Lupu applies it, would support a finding of burden on the facts of Lyng, as well as the Quechan facts.

Thus, when the federal government "acquired" the land, it did so subject to the burdens that ran with it. As Wally Antone, Quechan Tribal member wrote, "Non-Indians have no rights to give the lands, culture, religion and traditions away." (Wally Antone correspondence, February 10, 1997). Further, "[t]he 1872 Mining Law] in Native American perspective has *unconstitutionally assumed jurisdiction* over area once used by Native American [sic] for traditional use . . . losses like these are leading to the perverse conclusion that we as Native Americans would be better off to reclaim many public lands" (Lorey Cachora correspondence to Terry Reed, BLM, April 23, 1997). Contrary to what the special interest mining companies may state in the news media, the only truly vested property rights on this land may well rest with the Quechan - and not the mining company.

Yet, despite the overwhelming evidence in support of an easement, the DEIS/R 2 stands silent as to the property rights of the Quechan. This runs afoul of the BLM California Desert Conservation Area Plan, Native American Element, page 26, which states that the goals of the program are to, "Achieve the *full consideration* of Native American values *in all land-use [sic] and management decisions.*" (emphasis added). Moreover, "Guidance is provided through this element to insure that this management *is consistent not only with the applicable legislation but also with the concerns and cultural values of the appropriate Native American group(s).*" Thus, codified regulations alone are not determinative of land use decisions. The key issue of easements warrants discussion in the DEIS/R.

018

D. Sacred Lands and the Public Trust Doctrine

BLM has trust responsibilities to the American public generally on one hand, and to Native American tribes specifically on the other. Both require BLM to meet certain standards in deciding whether to approve a plan of mining operations.

---

[49] In most jurisdictions, the period of prescription is derived by analogy from the statute of limitations governing actions to recover possession of land. In California, this period of time is a mere five years to ripen the prescriptive right. (Calif. Code of Civil Procedure § 321).

General trust obligations include the public exercising an enforceable right to prevent infringement of certain property rights and uses, ostensibly preserved for the benefit of the public, by the state. (*See generally.* Sax, "The Public Trust Doctrine in Natural Resource Law: Effective Judicial Intervention," 68 Mich. L. Rev. 473, 474 (1970) ("Of all the concepts known to American Law, only the public trust doctrine seems to have the breadth and substantive content which might make it a tool of general application for citizens seeking to develop a comprehensive legal approach to resource management problems")). The impediment of public recreation by a private commercial mining project, for example, may be a particularly important subordination of public trust. (Id. at 545-546); National Audubon Society v. Superior Court (1983) 33 Cal.3d 419, 440 ("Mono Lake" case)(recognized that the continuing power of the state, as administrator of the public trust in navigable waterways, extends to the revocation of previously granted rights and to the enforcement of the trust against lands long thought free of the trust).[50] Approval of diversion of great quantities of water from streams, for purposes unconnected to public uses relating to that source stream without considering public trust values, may result in the "needless destruction of those values. . . Such uses should not be destroyed because the state mistakenly thought itself powerless to protect them." (Id. at pp. 426, 452). Similarly, BLM has a trust obligation to prevent the unnecessary destruction of the artifactual heritage contained on this public land. When the government holds a resource which is available for the free use of the general public, a court will look with considerable skepticism upon *any* governmental conduct which is calculated *either* to reallocate that resource to more restricted uses *or* to subject public uses to the self-interest of private parties. Illinois Central Railroad Company v. Illinois 146 U.S. 387, 452, 454 (1892); People v. Gold Run D. & M. Co. (1884) 66 Cal. 138, 146 (recognizing that its decision might destroy the remains of the state's mining industry, the court nevertheless affirmed an injunction barring the dumping of sand and gravel from a water canon into the American and Sacramento Rivers).[51]

Trust obligations specific to Native Americans include that tribal trust assets are *legal interests in property* held in trust by the U.S. for tribes. (BLM Informational Bulletin No. CA-98-37, March 9, 1998). If these property interests are impaired, or taken, compensation may be due. (Sax, "The Public Trust Doctrine in Natural Resource Law: Effective Judicial Intervention," 68 Mich. L. Rev. 473, 546 (1970) (insofar as unforeseen damages from mineral extraction are an additional cost to the public it would appear "perfectly consistent" both with the California court's holding and with the constitutional provision to hold that such costs must likewise be compensated)). Moreover, the U.S., acting through the Secretary of the Interior, "has charged itself with moral obligations of the highest responsibility and trust. Its conduct, as disclosed in the acts of those who represent it in dealings with the Indians, should therefore be judged by the *most exacting fiduciary standards*." Pyramid Lake Paiute Tribe of Indians v. Morton 354 F.Supp. 252, 256 (1973)(emphasis added). In fact, government undertakings with Native Americans are to be liberally construed to the benefit of Native Americans, and the duty of the Secretary of Interior is particularly apparent. Id. This is, in part, because of the historical "political imbalance" and inadequate representation and access to, and dealings with, legislative or administrative agencies by individual Native American tribes compared to the mining industry. Finally, commentators have suggested that the public trust rights under Hispanic law, guaranteed by the Treaty of Guadalupe Hidalgo, serve as an independent basis for the public trust doctrine in California. (Stevens, "The Public Trust: A Sovereign's Ancient Prerogative Becomes the People's Environmental Right" (1980) 14 U.C.

[50] *See also,* Marks v. Whitney (1971) 6 Cal.3d 251 (California courts recognized that the public trust protects environmental and recreational values).

[51] It is an interesting historical unity that common law water appropriation originated in the gold rush days when miners diverted water necessary to work their placer mining claims. And, incidentally, the first appropriation statute was enacted in 1872, the same year the Mining Act of 1872 became law.

Davis L.Rev. 195, 187). BLM cannot, therefore, summarily dismiss the Quechan Nation's colorable claim of a prescriptive easement.

E. Lack of Analysis of Religious Accommodation in the Environmental Review Process

019

1. The Lyng Decision is Not Controlling in this Case

The First Amendment states that, "Congress shall make no law respecting the establishment of religion, *or prohibiting the free exercise thereof*." (emphasis added). The underscored Free Exercise Clause imposes a duty on the government to justify certain actions that burden religious exercise. The Religious Freedom Restoration Act (42 U.S.C. 2000), the American Indian Religious Freedom Act Amendments (42 U.S.C. 1996), and the Indian Sacred Sites Executive Order 13007, represent determinations as to how, within the zone of permissible accommodation, the government *should accommodate* native religions. That Executive Order was enacted to protect sacred sites, like the Trail of Dreams, occurring on federal lands. This project would be a federally approved project on federal lands. Moreover, the U.S. Constitution "encourages accommodation, not merely tolerance, of all religions and forbids hostility toward any." Northwest Indian Cemetery Protective Ass'n v. Peterson (1985) 764 F. 2d 581, 586. As stated by Lorey Cachora,

> This is our life we are talking about . . . We thought the Federal government took over that property to protect it, but they don't always do a good job at that. Some people in the government simply do not respect Native American values. The government should look at the area like a church, which is a superior place with superior value and should not be destroyed. If the government doesn't consider religion important, then there is definitely something wrong." (DEIS/R pages 20-21).

In further pursuit of these goals, remarks of President Clinton to Tribal Leaders on April 29, 1994, repeat the sentiment, that,

> No agenda for religious freedom will be complete until traditional Native American religious practices have received all the protections they deserve. Legislation is needed to protect Native American religious practices threatened by federal action. And I will continue to work closely with you . . to make sure the law is constitutional and strong.[52]

BLM must accommodate the Quechan religion, and contrary to the assertions of the applicant, a nonlawyer, recognize that Lyng is not controlling here. Lyng v. Northwest Indian Cemetery Protective Ass'n (1988) 485 U.S. 439 is not dispositive on the subject of preservation of sacred sites. First and foremost, it must be underscored that the government victory in Lyng was not the result of the judicial application of the heightened review standard of the free exercise cases. Rather, the court in that case *avoided* applying that standard by holding that the harm inflicted by the paving of the road *was not the sort of harm* that *would trigger* the heightened protections of the free exercise clause. (Ira Lupu, Where Rights Begin: The Problem of Burdens on the Free Exercise of Religion, 102 Harv. L. Rev. 933, 935 and 960 fn. 101 (1989)). Second, both federal and state legislation and policy *have increasingly provided* for the preservation and protection of Native American values and cultural resources, *particularly where the*

[52] Craig Alexander, Office of Tribal Justice U.S. Department of Justice, Protection of Indian Sacred Places and the Religious Accommodation Doctrine, paper prepared for the Sovereignty Symposium X, June 9-11, 1997, p. 6.

values are located in their traditional land areas. (FEIS and CDCA Plan, Appendix Volume D, Appendix VIII Native American, Part 4, "Legislation and Native American Values." BLM September 1980, p. 105). Accordingly, Executive Order No. 13007, signed into law on May 24, 1996, discussed *supra*, and enacted after Lyng, appears to elevate protection of Indian sacred lands on federal property *from "mere" policy to regulation*. As stated recently in the Los Angeles Times, "[t]he [Glamis Imperial] dispute marks the first significant test of an executive order issued by President Clinton two years ago requiring federal agencies that oversee the government's vast land holdings to show greater sensitivity to sites held sacred by Native Americans." (*See attached*, February 9, 1998, Los Angeles Times article, "Rights and Rites Clash in Mine Plan.").[53]

Third, the instant matter is quite distinguishable from Lyng on its facts. Unlike Lyng (government's upgrading and paving of a *pre-existing* road on government land which would result in increased recreational use of an area central to Indian traditional religion, found not to coerce practitioners of Indian religions from violating their religious beliefs), the proposed project is of a much grander scale and intensity than merely paving a pre-existing road on top of land, adjacent to areas deemed sacred.[54] The comparison is astounding: the Imperial Project expects to unearth over 600 million tons of rock, in pits 300-880 feet deep, 24 hours a day, 365 days a year, for at least 20 years and encompass a direct disturbance footprint of over 1,571 acres. (DEIS/R 2, Appendix L, pp. 4-6.) Also, the sacred lands at issue in Lyng were in fact, all directly and deliberately protected by the imposition of a "protective zone" around the sites. There, the government was solicitous and selected an alternative alignment. In other words, the Lyng case was primarily an *indirect*, not *direct*, impacts case unlike the case at bar. Each of these factors rebut the applicant's blind, nonexpert assertion of Lyng's appropriateness in the instant matter.[55] Thus, the Lyng decision is not an endpoint in itself: it is merely an important building block in the evolution of the developing doctrine surrounding the preservation of sacred sites. Lyng is but a step in the law pertaining to sacred sites. Period.

020 **2. The Quechan Religion is Entitled to Equal Protection Among Religions**

The applicant, has consistently minimized the proposed project's adverse impacts on the Quechan Nation's religious practices. (*See.* February 6, 1998, letter from Steve Baumann, Vice President and General Manager Glamis Imperial Corporation, to Pat Shea, Director BLM.) Quite the contrary, the ancient Quechan religion has as much worth and relevance as any other religion in modern America. Under the U.S. Constitution our government cannot elevate any one religion over the others. (American Indian Civil Rights Handbook, Clearinghouse Publications No. 33, U.S. Commission on Civil Rights,

---

[53] *See also*, Craig Alexander, Office of Tribal Justice U.S. Department of Justice, Protection of Indian Sacred Places and the Religious Accommodation Doctrine, paper prepared for the Sovereignty Symposium X, June 9-11, 1997, p. 14 (there are powerful arguments that the protection of Indian sacred places on federal lands falls within the "permissible zone" of the standard religious accommodation doctrine).

[54] A fact pattern that would roughly be analogous to the Lyng facts would be the paving of the pre-existing Indian Pass Road. The unpaved road already exists through the site. These are the Lyng facts. Lyng v. Northwest Indian Cemetery Protective Ass'n (1988) 485 U.S. 439 (In 1977, the Forest Service issued a draft EIS that discussed proposals for upgrading an existing road that runs through the Chimney Rock Area; moreover, the Native Americans there were "far from unanimous in opposing the road improvement so it seemed less than certain that construction of the road would be so severe as to "doom their religion"). Clearly, the Imperial Project's impacts are of a far different magnitude. No one is currently complaining about the Indian Pass Road itself.

[55] *See.* February 6, 1998, letter from Steve Baumann, Vice President and General Manager Glamis Imperial Corporation, to Pat Shea, Director BLM.

1972, p. 14.). Moreover, the Quechan themselves are entitled to Equal Protection under the laws.[56] Under the First Amendment, the government may not inquire as to whether the Quechans' belief is reasonable or valid." In fact, religious beliefs need not be acceptable, logical, consistent, or comprehensible to others to merit First Amendment protection. Thomas v. Review Bd. (1978) 450 U.S. 707, 714.[58] For example, hundreds of millions of people believe that the world was created in six days as described in the Bible, and hundreds of millions of Catholics worldwide believe in the Virgin birth. Like the Old Order Amish in Yoder, the record in this matter abundantly supports the claim that the traditional way of life for the Quechan is not merely a matter of personal preference, but one of deep religious conviction, shared by an organized group, and intimately related to daily living. Wisconsin v. Yoder 406 U.S. 205, 216 (1972).

In claiming that the project site is inessential to Quechan religious practices, the applicant has been widely quoted as saying a Christian need not go to Bethlehem to celebrate Christmas. This may be true, but it is also true that certain sites in the Holy Land are essential to the religious practices of Christians worldwide - the vast majority of whom will never visit them. All the major global religions have sites, often many sites, that they consider sacred. Those sites have long-standing religious and cultural significance both in written and oral traditions. Jerusalem is but one such site, a site considered sacred to Jews, Christians and Muslims. Just as we respect the religious beliefs and traditions of Christianity and other world religions without having to understand or accept them all ourselves, we must respect the religious and cultural beliefs and traditions of the Quechan Nation and respect their sacred sites. Modernly, we would never condone the destruction of the sacred sites of Christians, Jews, Muslims, Hindus or other people of faith.

Finally, one does not require other religions to explain the details of their religious beliefs or explain why they hold certain places sacred or holy and justify their desire to protect certain sacred areas. This has been long-recognized at BLM. BLM Guidelines state that much of the knowledge that is required for the effective incorporation of Native American values in resource management programs is often considered sacred in itself. *This sacred information is recognized as being "knowledge restricted," even within the group,* to certain Native American experts. "Simply put, public knowledge of what is meant to be sacred and carefully curated knowledge of a few Native American experts could constitute an impact sufficient in magnitude to *destroy the sanctity* of a site for the Native American community." (FEIS and CDCA Plan, Appendix Volume D, Appendix VIII Native American, Part 5, "Sensitivity and

---

[56] Lorey Cachora has stated that, "In my previous [archaeological] jobs, I've never seen an equal protection [of Native American religious values] in any [environmental] report." (SCA 32nd Annual Meeting, Native American Cultural Resources Workshop comment).

[57] Criticizing the DEIS/R 1, the Quechan wrote, "[w]e see skepticism of Native American interpretations in all current Archaeological survey reports and this cynicism is causing conflicting philosophical and historical theories between Native American and Anglos and that industrial developers use these differences to get what they want at any cost to other people." (Pauline Owl, Chairperson Quechan Cultural Committee, correspondence to BLM, February 10, 1997). "The total disregard for Native American culture, religion, and history, as shown by your document, is an affront to me personally and to the Tribe generally." (Mike Jackson, Sr. President Quechan Indian Tribe, February 13, 1997 correspondence to BLM).

[58] " Theologians, sociologists, and others have struggled mightily with definitional questions, but have hardly approached anything resembling agreement on what constitutes religion or religious belief. Although courts and legal commentators have themselves wrestled, often admirably and instructively, with approaches to the problem of definition, the human capacity for variation in matters of spirituality suggests little reason to believe that lawyers will improve the situation." Ira Lupu, Where Rights Begin: The Problem of Burdens on the Free Exercise of Religion, 102 Harv. L. Rev. 933, 957-958 (1989).

Potential for Mitigation." BLM September 1980, page 109)(emphasis added). The current information in the environmental documents alone satisfy the standards establishing the area as a sacred site. More information is not needed. In the words of Lorey Cachora, the government, "can't favor one religion over another --- the [U.S.] Constitution should have [applied to this site] from the very beginning." (Lorey Cachora, SCA 32nd Annual Meeting, Native American Cultural Resources Workshop comment).

F. The DEIS/R 2 Fails to Adequately Analyze Environmental Justice Concerns

021 The DEIS/R 2 once again misses the mark and lacks a full exploration of environmental justice concerns. The federal government has recognized that,

> Environmental impacts do not fall equally on everyone in society. Studies have shown that chemical manufacturing plants, hazardous waste landfills, highways and other development with negative environmental consequences are more likely to be located in low-income and minority communities. Low-income populations and minority populations are more likely to be exposed to physical displacement and adverse impacts on their cultural institutions, traditional forms of land use, community cultural character, religious practices, and financial well being. The idea behind environmental justice is to recognize these disproportionate impacts and try to avoid them.[59]

The Imperial Project environmental document also lacks conformance with the May, 1996, Council on Environmental Quality Guidance for addressing environmental justice under NEPA, Department of the Interior program guidance, and other recommendations. (*See attached*, excerpts from Ron Bass, *Evaluating Environmental Justice Under NEPA*, Edited Version 4 - August 28, 1997.) In addition, two questions must be asked: *Does the potentially affected community include minority and /or low income populations? Are the environmental impacts likely to fall disproportionately on minority and/or low income members of the community and/or tribal resources?* Both questions must be answered affirmatively and analyzed as such in the Imperial Project's DEIS/R 2. Each was not. (DEIS/R 2, pp. 4-125 - 4-127). Accordingly, the one sentence statement which does appear in the DEIS/R summary on this issue is insulting to the Quechan Nation and other minority and/or lower income communities in the project area. ("No disproportionately high and adverse indirect human health or environmental effects to minority or low-income populations would result"). (DEIS/R 2 "Summary" p. S-64). Nor will substantial economic benefits be conferred on the Quechan or the population at large from this proposed project.[60]

BLM's one-line, conclusory "analysis" runs counter to all the facts presented in the DEIS/R 2. Based on the presented information, one can only draw conclusions of significant adverse impacts to the Quechan. BLM's "analysis" also ignores that, for Council of Environmental Quality ("CEQ") purposes, "minority" encompasses American Indians and covers adverse impacts to cultural resources for minority

[59] General Services Administration Fact Sheet "What is Environmental Justice" February 1998, p. 1.

[60] *See supra section, at II (b) (2), that proposed project's benefits are unsubstantiated.* The DEIS/R 2 admits that most job holders will be from outside California and that they may not reside in California during their tenure with the project. Ironically, the DEIS/R 2 notes the asserted high level of unemployment in Imperial County (later cited to support the economic benefits of the proposed project) yet wholly fails to tie purported economic benefits to the local California population.

communities and, in analyzing social and economic impacts, unique cultural aspects should also be reviewed. (*Interim Final Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analysis*, September 30, 1997, U.S. EPA). The DEIS/R 2 and its cover letter indicate serious adverse impacts to Native American cultural resources that will be significant and unmitigable. (DEIS/R 4-126: cover letter p. 2). Groundwater contamination with cyanide and air pollution with diesel and dust particles are also of great tribal concern.

BLM's one-line conclusory "analysis" runs counter to all federal guidance as well. The affected population need not be concentrated in the project vicinity to be considered, and both the residential and *user* populations must be considered. (General Services Administration Fact Sheet "Environmental Justice and NEPA" February 1998, pp. 5-7). The BLM should: consider the human composition of the affected area (both its population and how it is used by human communities); recognize that the cultural, social, occupational, historical, and economic characteristics of a community may amplify the environmental effects of an action (the community may be more sensitive to the effects and less resilient in adapting to them); implement effective public participation strategies that seek to overcome linguistic, cultural, institutional, geographic and other barriers to meaningful participation; and, where tribes are involved, make sure that interactions are consistent with the government-to-government relationship between the U.S. and the tribal government. Id. Finally, CEQ guidance reminds us that, "the impacts within minority populations, low-income populations, or Indian tribes may be different from impacts on the general population due to a community's distinct cultural practices. For example, data on different patterns of living, such as subsistence fish, vegetation, or wildlife consumption and the use of well water in rural communities may be relevant to the analysis." (Id. at p. 6).

BLM has stated that, "[t]he extent to which a proposed action or alternative may disproportionately harm low-income and minority communities *will be determined by the responsible official through the public involvement process.*" (BLM Overview of BLM's NEPA Process National Training Center Course Number 1620-02, September 1996, p. 43). That BLM has abdicated its leadership role in addressing environmental justice impacts is deplorable. The "analysis" also appears to violate the February 1994 Executive Order 12898, "Federal Actions to Address Environmental Populations and Low-Income Populations," which explicitly calls for the application of *equal consideration* for Native American programs. To meet these goals, the Order specified that each agency develop an agency-wide environmental justice strategy. Environmental justice concerns may lead to more focused analyses, identifying significant effects that may otherwise have been diluted by examination of a larger population or area. Environmental justice concerns should always trigger the serious evaluation of alternatives as well as mitigation options.

The current optional mitigation "package" and the preferred alternative do not meet these federal standards. This issue is properly addressed at this time: "each federal agency shall analyze the environmental effects, including human health, economic and social effects, of Federal actions, including effects on minority communities and low-income communities, when such analysis is required by [NEPA]." ("Memorandum for the Heads of All Departments and Agencies: Executive Order on Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," The White House, February 11, 1994; *see also*, General Services Administration Fact Sheet "Environmental Justice and NEPA" February 1998, pp. 3-7). Later information and analyses may show that the initial screening analysis were mistaken. Indeed, analysts should re-examine the two screening questions noted at the beginning of this section, at key steps in the NEPA process, including in soliciting comments on DEISs, in responding to comments, and in preparing RODs. (*Interim Final Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analysis*, September 30, 1997, U.S. EPA).

G. The Proposed Mining Project Violates Quechan Civil Rights

022 One of the most frequently voiced complaints has been that the majority of American Indians have never adequately been informed about their Civil Rights. (American Indian Civil Rights Handbook Clearinghouse Publishers, No. 33 US Commission on Civil Rights, 1972, page 7). The pattern and practice of undocumented destruction of Quechan religious and cultural sites indicates that federal agencies and private corporations have capitalized on this unfortunate phenomenon.

> There have been too many one-sided accounts of events including Indian people and tribes. Based on this, there is a tremendous need for the traditional history to be told. Today many of us, as Native Americans, feel that our rights have been conspicuously violated in the past. We have seen projects that have gone through our traditional territory, and even our contemporary lands, without regard for our heritage. The continued destruction of cultural resources associated with our past/present intrudes on many of our traditional activities. (Statement of Lorey Cachora, DEIS/R 1, Cultural Technical Appendix, p. 58)

In fact, the aforementioned Executive Order 12898, suggests that environmental justice is an aspect of civil rights, and that discrimination in the placement or location of environmentally hazardous facilities or activities may be a basis for litigation under Title VI of the Civil Rights Act ("CRA") of 1964. (General Services Administration Fact Sheet "The Roles of EPA, CEQ, and DOJ" February 1998, p. 3). The EPA Office of Civil Rights is responsible for enforcing Title VI of the CRA, implementing the non-discrimination provisions in the Executive Order, and processing Title VI complaints filed with the EPA. Id. The time has come for the Quechan Nation's civil rights to be honored and protected by deed, not just more rhetoric and unimplemented BLM policy.

II. The Contents of the DEIS/R 2 Raise Serious Substantive Legal Inadequacies Under CEQA, NEPA, Internal BLM Guidelines and Presidential Direction.

023 **A. BLM, Imperial County & the Applicant Cannot Mitigate for the Loss of a Religion**

The BLM's California Desert Conservation Area Plan, Native American Element, page 29, "Responses to Issues," recognizes that agencies and applicants cannot mitigate a religion,

> Many impacts on resources of Native American value are not amenable to mitigation. Desecration or sacrilegious treatment of religiously significant sites cannot be mitigated as can many adverse effects on material resources. These substantial potential and often irreversible impacts on cultural values will be carefully considered in all actions of the Plan.

It is well recognized that many Native American issues and concerns, although associated with BLM lands and resources, are based on "intangible values." These intangible values *are not amenable to mitigation* in the same way that a mitigation strategy can be used to address damage to, or loss of, physical resources. BLM Manual II-D, p. 6 ("Strategies to reduce proposed Federal actions' impacts, or proposed undertakings' effects, generally follow models related to [NEPA] . . .[w]here Native American cultural and religious concerns are involved, however, conventional methods of mitigation generally do not appropriately address the consequences felt by Native American practitioners.").

Religion is not a "cultural resource" to be mitigated. An eminent scholar warns: "don't make a loose equation of cultural resources with historic properties." (Thomas King, SCA 32nd Annual Meeting,

Native American Cultural Resources Workshop comment). According to King, the whole point of the National Register Bulletin 38 (which he co-authored and that has been cited by the federal courts as authoritative) was to get beyond this erroneous equation. Id.[61] Thus, "classification" has become a problem. (King, "How the Archeologists Stole Culture: A Gap in American Environmental Impact Assessment Practice and How to Fill It," Environmental Impact Assessment Review Vol. 18, No. 2, March 1998, p. 123-125). In fact, Lorey Cachora has observed in his scores of years in archaeology, that most religious sites in most environmental reports have "toned down" the site's religious significance from that represented by the Native American consultants interpreting the site in the field for the consulting firm. (SCA 32nd Annual Meeting, Native American Cultural Resources Workshop comment). Mr. Cachora modestly refers to this as a "difference in focus" and emphasizes that, "Mitigation and religion do not go hand-in-hand --- you can't mitigate religions because there is no price to them." Id.

Unfortunately, the DEIS/R 2 and its technical appendix did indeed fall into the classification trap and "jumbled up," confused, and erroneously synthesized the varying significant aspects of this site, and, importantly, failed to come to discrete conclusions of significance.[62] According to the Quechan, the site should be examined for its importance in **three areas: material cultural artifacts, the site's religious and spiritual landscape, and for teleportation practices.** Each of the three is related to a distinct practice. The BLM Manual recognizes this,

> Native American concerns may require something different from the usual kind of analysis and consideration when mitigation is not a realistic option. *Where a proposed action would infringe on constitutional rights or treaty rights, mitigation or compromise is not a proper response.* (emphasis added) (BLM Manual, II-D, p. 8)
>
> The fact that BLM's cultural resource specialists are frequently the ones assigned to do the staff work for certain Native American issues could lead to some misunderstanding that Native American issues are cultural resource issues. From there it could be mistakenly deduced that Native American issues might often be resolved through mitigation methods such as archaeological data recovery. *Such ideas would misinterpret the majority of Native American issues that managers must consider in decision making.* (emphasis added)(BLM Manual, II-D, pp. 6-7)
>
> Special care must be taken to keep the several Acts' distinct legal purposes separate, so that they do not become inappropriately blended and confused in the various participants' minds. Losing focus on individual laws' requirements, participants specified, and reason for obtaining Native American input can result

[61] King went on to state that, "In 1966, the law was not about what's important to [project] proponents, but what's important in the community."

[62] Perhaps the cultural consultant was merely taking its cue from BLM itself, where the agency "rule of thumb" includes, "Never call[ing] an impact adverse . . . Never call[ing] an impact insignificant . . ." (BLM Overview of BLM's NEPA Process National Training Center Course Number 1620-02, September 1996, pp. 28, 51). This "guidance" appears to contradict the FEIS and CDCA Plan, Appendix Volume D, Appendix VII Cultural Resources, pp. 32, 41, 44 ("[t]he concept of significance has been used in most laws, directives and regulations pertaining to cultural resource management . . . and is the key to the Sensitivity Mapping Record . . . developed by staff . . . All areas specifically identified by Native Americans as being "sacred" or as having explicit ritual association were considered of "high sensitivity.") (quotes original).

> in *omissions, mistakes, inappropriate expectations on the Native American's side, and inadvertent noncompliance on the BLM's side.* (emphases added) (BLM Manual IV-C, p. 23)

Even if impacts to *material cultural artifacts* were to be adequately "mitigated" through exhaustive cataloguing, curation, and analyses, study throughout the lower Colorado "known" area, and captured in a beautiful IMAX educational film, the adverse impacts to the site's *Native American religious and spiritual landscape* (including integrity for teleportation practices), could never be mitigated. "Mitigation of impact to a [TCP] is truly a western concept that has no place in the traditional Zuni world view. . . [c]onsequently, from the perspective of the Zuni Tribe, it would be much more appropriate for agencies and developers to consider [TCPs] when the feasibility of projects is being initially considered." (Andrew Othole and Roger Anyon, *A Tribal Perspective on Traditional Cultural Property Consultation*, CRM Vol. 16, 1993 (Special Edition)). The DEIS/R 2 either inadvertently misses this point because of its inherent complex nature, or intentionally obfuscates and confuses these important distinctions to steamroll the project through processing:

> In fact, this is an "apples and oranges" argument. Native American religious values can not [sic] be compared to scientific value. While human graves also have archaeological value, Native American opinion that a plot of land or geologic feature can be demonstrated to be integral to on-going religious practices is a totally distinct issue.[63]

Thus, there are places archaeology cannot take us.[64] An improved social impact assessment ("SIA") process may help get us there. According to recent guidelines and principles for SIAs developed by an interorganizational committee, an SIA should analyze the ways a project or program may:

> alter the ways in which people live, work, play, relate to one another, organize to meet their needs and generally cope as members of society. The term (social impacts) also includes cultural impacts involving changes to norms, values, beliefs that guide and rationalize their cognition of themselves and their society.[65]

Thomas King observed in a recent survey he prepared on contract to the President's Council on Environmental Quality that, this broad definition of SIA was honored largely in the breach --- over 90 percent of the EISs reviewed discussed the social aspects of the environment primarily in terms of demography, employment and economics --- that is in terms of easily quantified variables that have little to do with how people relate to one another or generally cope as members of society and still less to do with norms, values, and beliefs. (King, "How the Archeologists Stole Culture: A Gap in American Environmental Impact Assessment Practice and How to Fill It," Environmental Impact Assessment Review Vol. 18, No. 2, March 1998, p. 125-126; *see supra*, section on overriding considerations).

---

[63] *See attached,* Ron. V. May, expert letter on archaeological sites for the 125 Project near Sweetwater in San Diego County, December 1, 1997, p. 2.

[64] *See attached,* Ernest H. Silva, *Where Archaeology Does Not Take Us: An American Indian Perspective,* Malki Museum.

[65] Interorganizational Committee 1994, p. 1 (as cited in: King, "How the Archeologists Stole Culture: A Gap in American Environmental Impact Assessment Practice and How to Fill It," Environmental Impact Assessment Review Vol. 18, No. 2, March 1998, p. 125).

Viewed in this light, the DEIS/R 2 does precious little to fully examine the impact this proposed project would have on Quechan religion and social practices. Using King's approach, the proposed project would amount to nothing less than theft of the Quechan spirit.

1. Alleged Avoidance of Direct Impacts to Religious Practice & Cultural Artifacts Untrue

024 The applicant's claim that the project's impacts are largely insignificant because the project will now avoid and/or reduce some direct impacts to some of the on-site cultural resources is simply untrue. (DEIS/R 2, Appendix L, p. 307)("It should be noted that Glamis Imperial has already modified the Project to reduce impacts . . . Unfortunately, however, there are direct conflicts between the location of the ore body and the location of some of the important features, and the intrusion of a mining operation of this magnitude cannot avoid adverse effects."). First, that a few sites may be technically physically "nonimpacted," incorporated in the project design or marginally buffered does not guarantee adequate mitigation. Northwest Indian Cemetery Protective Ass'n v. Peterson 764 F.2d 581 (1985). (Forest Service proposal to erect buffer zones to protect eleven sites with identified historical and ritual use deemed insufficient). Second, as noted earlier, a clear distinction must be drawn between efficacy of mitigation for impacts to religious practice as opposed to impacts to cultural artifacts. BLM itself has recognized this distinction. So must Glamis Imperial. Now both must follow it. "Infringement of religious freedom cannot be mitigated in the way that impacts and effects on natural resources and cultural properties can be reduced. Compromise - i.e., we give a little, they give a little - is not a suitable option." (BLM Manual, II-D, p. 7).

Third, most sites will not be avoided. The first iteration of the DEIS/R admitted that the proposed project would have direct and indirect impacts to ***most, if not all, cultural resources on the project site***. (DEIS/R 1, 4.1.6.2 at 4-76). The DEIS/R 2 concludes that, "it is not economically feasible to avoid all of the features that contribute to the significance of these cultural resource sites." (DEIS/R 2, page 4-81). Unmitigated direct impacts will occur to all of the multicomponent sites in the mine and process area. (DEIS/R 2, Appendix L, pp. 312-313; *See*, Table 8-1 which shows that the impacts to most of the multicomponent sites would be "high" --- meaning that over 50 percent of the site would be impacted including elements that contribute to its eligibility for the NRHP) (*Compare* Chemgold's Project Boundary and Site Locations from the DEIS/R 1, Cultural Technical Appendix, Figure I with Figure S.3 Imperial Project Mine and Process Area Facilities from DEIS/R 2 Summary, p. S-7). The project design has changed very little, if at all from the first and second drafts. (*Compare*, DEIS/R 2 Summary, Figure S.3 Imperial Project Mine and Process Area Facilities, with Figure S-3 Imperial Project Mine and Process Area Facilities from the DEIS/R 1 Summary).[66] Any change of project design has been minimal, cosmetic and does not alter the cultural resource or religious significance analysis.

That the applicant feels that some significant adverse impacts to religious and cultural features will be now avoided by their "incorporation" into the mining project is of no import (the remaining integrity of trails wedged between open pits can be demolished by one errant truck and the proposed "cut out" from the leach pad, allowing "access" to a geoglyph and cleared circle, will be as ineffective as the "successfully" rehabilitated 19th century train station now cut off from any remnant of its historic environment. (*See attached photo*, Advisory Council on Historic Preservation, *Section 106, Step-by-Step*, October 1986, p. 31)). Similarly, the Department of Interior has recognized that, "a location used by an American Indian group for traditional spirit questing is *unlikely to retain its significance for this purpose*

[66] In showing these two figures, and the project's proposed "changes" (between the two draft environmental documents), to an experienced lawyer in the mining business, he replied "so what - there is no material change" in the project.

if it has come to be surrounded by housing tracts or shopping malls" (National Register Bulletin 38 (1992) p. 10) The same can be said of a mining operation (for example, no practitioner will visit geoglyphs stationed within folds of the leach pad area). Further, no buffer, effective or otherwise, has been proposed to minimize the impacts from the mining operation on the "avoided" areas. (BLM Impacts: Damage to Cultural Resources in the California Desert 1980, pp. 135-136). Thus, avoidance "on paper" will be rendered meaningless with project-related off-road vehicle use, heavy truck vibrations, other attractive nuisance characteristics of mines (introducing more people into the area likely increasing the opportunities for vandalism) as well as increased opportunities for nonintentional destruction, such as taking down or relocating protective fences. (BLM Impacts: Damage to Cultural Resources in the California Desert 1980, pp. 14-16, 35-36, 147-148).

Finally, "avoidance" alone often is inadequate mitigation: with preservation comes a responsibility for onsite archaeological management. It is not sufficient to merely "one-time" avoid archaeological sites to preserve them - it is often necessary to monitor these sites and sometimes to actively manage them indefinitely. Monitoring and an active management must be incorporated into any project design to even begin to draft enforceable and meaningful mitigation through avoidance. (Office of Historic Preservation ("OHP") *Forging a Future with a Past: Comprehensive Statewide Historic Preservation Plan for California*, December 1997, p. 73). Yet, it must be remembered that active management itself may have adverse impacts to Quechan religious practice. (*See attached*, copy of print from the June 15, 1992 Guardian. This print, showing Stonehenge surrounded by police barricades, festooned with barbed wire and patrolled by private security guards falls "a long way short" of the dignity of the ancient site. Kevin Greene Archaeology, An Introduction 3d ed. (1996) Univ. of Pa. Press, p. 179).

This irony underscores that in a Class L multiple use area, if the pre-existing use of the area will be destroyed by the proposed use, that perhaps the uses are simply incompatible, and the proposed use falls short of the type of use appropriate for this particular multiple use area. In fact, BLM has long-recognized that Class L lands should only accommodate largely "nonconsumptive" and lesser-intensive uses. (BLM Impacts: Damage to Cultural Resources in the California Desert 1980, pp. 143-144 ("Unless the area is in a zone designated for Limited Use, Class L, the [BLM's] protective and management options will be severely limited")). BLM has also long-recognized that mining is the *most destructive* type of development to prehistoric sites in the California Desert. (Id. p. 35.) Class L designation, therefore, was meant to afford *protection --- not consumption*.

2. Indirect Impacts to Quechan's Ability to Practice Their Religion is Undeniable & Unmitigable

025 Second, the DEIS/R 2 fails to fully recognize and consider the myriad indirect impacts of the project on Quechan access to sacred sites and material culture, and their ability to practice their ancestral religion without disturbance. The second DEIS/R does a poor job of assessing the indirect, contexual and sacred geography impacts of the project. Despite the "$500,000 [spent] in cultural studies to date," and the partial avoidance of some direct impacts, the *indirect impacts from having an active mine overlaid onto sacred lands are nonetheless great and unacceptable.*[67] (DEIS/R 2, p. 4-92). The noise will be so loud as to prevent attaining a dreamstate, the dust will fill lungs, and vibrations from incessant blasting and heavy truck maneuvers will disturb the "avoided" areas, so much that the two uses, side-by-side, are

[67] *See attached*, Glamis Gold powerpoint graph depicting "Imperial Project Cultural Mitigation." *Compare with attached*, photo overlaying the mine, with the *recorded* sacred sites bounded by the project as found in the (unattached) DEIS/R 1 Site Location Map. (Incidentally, this Site Location Map should not have been included in any nonconfidential environmental report, and serves as another example of the privacy violations of the Quechan by BLM and the applicant during this project.)

simply and incontrovertibly incompatible. (*See attached.* February 9, 1997 New York Times "For Indians, Latest Fight is Over the Environment" (Virgil McConnell, an Assiniboine tribal elder, ".. . you can't go on a vision quest when there's blasting and a lot of noise. We tried to tell the mining company this, but they wouldn't pay much attention.")).

Indirect impacts take many forms. Some are easier to define than others. But their effects are equally as important as the effects of direct impacts. BLM narrowly defines "adverse effects" to the integrity of a sacred site as "typically" involving the "destruction, damage, or alteration of the site, or its setting. Yet, potentially adverse effects also include impairing the visual quality of the site and its setting and the *potential impacts of changing sounds, smells, and air quality.* Photography may even constitute an adverse effect, as could the handling and moving of religious offerings or human remains." (BLM Information Bulletin No. CA-98-37, March 9, 1998)(emphasis added). BLM and the applicant must therefore reevaluate this difficult yet crucial issue in the environmental documents.

026 **a. Adverse Indirect Impacts to Visual Cues & the Visual Cultural Environment**

Visual and aural cues are an integral part of sacred areas. (Personal communication with Lisa Chaddock, Cultural Ecologist, April 1998). These cues are often overlooked in typical or "boilerplate" cultural resource analysis. For example, the night-time spirit world activities on and near the project site will be hampered by the constant sky glow emanating from the 24-hour a day project. This dispersed light will block the moonlighting of crystals or quartz marking some trails, impacting the ability to travel as well as blocking the transformation of novices, initiates, or holy persons seeking renewal at Indian Pass sacred sites. (Personal Communication, David Carmichael, Ph.D., Anthropology Department at the University of Texas at El Paso, April 1998). The sky glow of the hard-rock mine will, in fact, outcompete the moon.

Another example, although the Running Man site may not be *directly* impacted by the currently proposed project, the current project, and especially, proposed expansions of the project, could cause severe indirect impacts. (*See supra section regarding project expansion, II (2) (c).* Further, tribal members believe that views of the horizon, including those of Picacho Peak and the Indian Pass area, *would be significantly indirectly* impacted by the construction of the planned 300-foot-high stockpile:

> Although the Running Man site would not be directly impacted by the proposed project, tribal members feel that views of the horizon, including those of Picacho Peak and the Indian Pass area, would be significantly impacted by the construction of stockpiles. Disruption of current views of the skyline would effectively prevent any future religious use of this site which, from the tribe's perspective, would be detrimental to their religious beliefs and practices.[68]

027 **b. Adverse Impacts to Aural Cues and the Aural Cultural Environment**

Similarly, indirect impacts to "aural resources" and cues are real and invasive to the Quechan. For the Quechans, silence is integral to passage into the dream state. Other tribes value natural quiet in their "known" areas as well. (*See attached excerpt from Appellant's Brief and supporting declaration,*

[68] DEIS/R 2, Appendix L, p. 123; FEIS for CDCA Plan, Appendix Volume D, Appendix VII Cultural Resources, Part 6, "Cultural Resource Protection Measures," p. 54 ("Usually, the preservation of socio-cultural values does not permit manipulation of the resource, although such manipulation may be appropriate in the case of scientific or recreational values. This is particularly true when the socio-cultural values are concerned with religious matters or formal social activities of semi-secret nature, such as initiation rites.")

Morongo Band of Mission Indians v. Federal Aviation Administration et. al. U.S.App.Ct 9th Cir. No. 98-70033 ("This quiet does something deep inside, allowing me to hold my thoughts on the Creator and nature, my ancestors and spirit, and to feel my heart and soul.")). Yet, the proposed mining project at Indian Pass will generate noise levels between 95 dB(A) (ore loading), 100 dB(A) (safety backup alarms for equipment), and 140 dB(A) (blasting), twenty-four hours a day, seven days a week, fifty-two weeks a year, for twenty years, making it impossible to achieve the quiet connection with nature necessary to enter the dreamworld. (DEIS/R 2, p. 4-101). Clearly, the indirect impacts from the proposed mine would render incompatible the Quechans' spiritual practices in the area within, and surrounding, the site as well as intrude on recreational users' enjoyment of adjacent public land. The intrusion will be so significant, that the draft environmental document admits that users may avoid this wilderness area for 20 years (the entire life of the project). (DEIS/R 2, pp. 4-101-102; 4-107). This aural intrusion includes indirect impacts to the entire Area of Traditional Cultural Concern ("ATCC") designated in the DEIS/R 2, at p. 3-92. This also renders questionable the effectiveness of the proposed mitigation of directly "avoiding" discrete sites within the project perimeter.[69]

028 c. Adverse Indirect Impacts by Utility Lines on Cultural Environment

Finally, the indirect impacts of utility lines have been inadequately examined in the DEIS/R 2. In fact, one must read 300 pages into the technical appendix to find out that a "water pipeline" is presently planned "to run through" CA-IMP-2727 --- the Running Man site --- where the pipeline would cross the two trails. (DEIS/R 2, Appendix L, p. 314). This potential indirect and direct impact must be examined in more depth as it could severely impact this central sacred site. Potential indirect impacts from the proposed overbuild, unmentioned in the DEIS/R 2, would be future landfill, subdivision or other development making use of the overbuilt utilities' capacity. Furthermore, no mention is made of the potential indirect impacts of overbuilding the transmission lines to serve the proposed mine itself.[70] This is particularly curious because, as early as the 1960s, Southern California Edison had to examine the indirect impacts from their proposed transmission lines crossing spirit pathways. Just as humans move along paths to destinations in the physical world, the spirit world moves in and out of sites and along the access corridors to other sites. (Personal Communication, David Carmichael, Ph.D., Anthropology Department at the University of Texas at El Paso, April 1998).

Similarly, in the early 1980s, the Kumeyaay Nation successfully fought to prevent an electrical line from being located across Tecate Peak, a most sacred area to the Kumeyaay. (Michael Mitchell, presentation "Changes in Attitude Towards Native American Cultures and How the Management of Public Lands Will Benefit," SCA 32nd Annual Meeting).[71] BLM has long-recognized that impacts to

[69] Other indirect impacts, inadequately studied in the proposed project's DEIS/R 2, include the potential for increased erosion of sites because the project would alter drainage patterns. (FEIS for CDCA Plan, Appendix Volume D, Appendix VII Cultural Resources, Part 6, "Cultural Resource Protection Measures," p. 45). For example, Los Angeles Department of Water and Power's transmission lines have caused erosion patterns that are gradually altering several cultural resources located along the transmission lines. (BLM Impacts: Damage to Cultural Resources in the California Desert 1980, pp. 2, 4).

[70] The areas along the transmission lines contain a greater concentration of ceremonial artifacts including geoglyphs, shaman's hearths, quartz rock alignments and cleared circles indicating that the proposed overbuild sites are coterminous with travel and sacred sites. (DEIS/R 2, Appendix L, pp. 225-245).

[71] Later, in 1991, that area of Tecate Peak above 3,000 feet was listed in the National Register as the first site listed solely for its sacred significance to Native Americans. The lower reaches of the Peak as well as little Tecate Peak and their bases are intended for protection in the BLM's South Coast Management Plan (Michael Mitchell, presentation "Changes in Attitude Towards Native American Cultures and How the Management of Public Lands Will Benefit," SCA 32nd Annual Meeting presentation).

Native American values include not only direct impacts to physical resources but also impacts to resources of "spiritual value" having little or no associated physical destruction. (FEIS and CDCA Plan, BLM September 1980, p. E-62.)[72] BLM must evaluate, in appropriate detail, each of these potentially significant indirect impacts, as well as their cumulative impacts.

029 **3. Ideological Impacts will Impair the Quechan's Spiritual Practices**

Third, BLM has also recognized that, "*[e]ven where no physical on-site disturbance occurs*, there may be an "ideological impact." (FEIS and CDCA Plan, BLM September 1980, p. E-63) (emphasis added). The DEIS/R 2 lays out extensive ideological impact in both the Quechan's own words and the words of archaeological and cultural anthropologists. Whereas Judeo-Christian religions tend to arbitrarily create their own sacred space and times by special rituals of sacredization, American Indians attempt to discover "access points" or "portals" to the sacred that are often impossible to know before the dreams or visions that reveal them. Moreover, certain geographical spaces or points may be used rarely but can still be very valuable at appropriate times. (Deward E. Walker, Jr. (1987) Protecting American Indian Sacred Geography. *Northwest Anthropological Research Notes*, Vol.22 No.2: 241-254, at 244). Regarding the Mount Graham project,

> For the Apache who oppose the project, it is seen as a fight for cultural survival, for the fundamental right to practice traditional religion. A right supposedly guaranteed by the United States Constitution, it is a right which many Native Americans have been denied. The free practice of many Indian religions requires privacy and undisturbed access to culturally and religiously significant sites and their resources. It is irrevocably tied to specific places in the world which derive their power and sacred character from their natural undisturbed state.[73]

Even BLM California State Director Ed Hastey, at the December 16, 1997, consultation, concedes that there is no possible way to mitigate for the loss of the Quechan religion. The consulting archaeologist admits in the conclusion of his report that the Quechans have "always expressed adamant opposition to the mining project" and know that this site cannot be mitigated. (Native American Consultation, pp. 15, 23, 33). Recently, Lorey Cachora has stated that, "You can mitigate for the loss of natural resource, [b]ut you can't mitigate the loss of religious resources. This land is our entry to the other world. If it is gone, so are we." (*See attached*, February 9, 1998, Los Angeles Times article, "Rights and Rites Clash in Mine Plan.").[74] More recently, Mr. Cachora has lamented that he has "seen

---

[72] Pursuant to NHPA, adverse effects include the introduction of visual, audible, or atmospheric elements out of character with the property or altering its setting. (36 CFR Section 800.9(b) (3) (1993) "Criteria of Effect and Adverse Effect)."

[73] *Excerpt from*, Cultural Survival Quarterly Winter 1996 issue ("American Indian Religious Freedom, First People and the First Amendment") "The Fight for Dzil Nchaa Si An, Mt. Graham: Apaches and Astrophysical Development in Arizona" Elizabeth Brandt, Professor of Anthropology and Linguistics at the Department of Anthropology at Arizona State University. Throughout the Dzil Nchaa si an (Mt. Graham) controversy, the differences in ideology, cultures and attitudes played out in litigation. In the desert, the San Carlos Apache pray for rain and praise Mt. Graham when it is covered with clouds. On the other hand, the astronomers hope there will be no rain and no clouds so that they will profit from clear, dry desert skies. *See attached*, "Background to the Struggle" excerpt from the Apache Survival Coalition's Home Page.

[74] It is important to keep in mind that many, perhaps most, specific issues of Native American concern will not be issues associated with cultural resources such as archaeological sites. Rather, areas of concern are likely to center on

religious values in the past destroyed in the name of mitigation [for cultural resources]." (Lorey Cachora, SCA 32nd Annual Meeting, Native American Cultural Resources Workshop comment). This position is consistent with literature on the beliefs of many other native cultures. "Mitigation" for impacts to religion is not part of their vocabulary: [75]

> This may be the most important and yet most difficult point for Americans to grasp: that Indians in our country and elsewhere are different from other "oppressed" or "undeveloped" Third World peoples who seek to share the fruits of our society. In fact, many Indians speak of themselves as a Fourth World. They do not wish to become like us. They are fighting to avoid that outcome, struggling to maintain their land base and to live as they have always lived . . . They do not wish to join the technological experiment. They do not wish to engage in the industrial mode of production. They do not want a piece of the action. . . That this juggernaut will eventually consume itself is not doubted by these people. They meet and discuss it. They attempt to strategize about it. Their goal is to stay out of its way and survive it.[76]

It is worth emphasizing that despite the pressured tactics of the consultant to get the Quechans to accede to mitigation, the DEIS/R 2 is silent as to whether the Quechan Cultural Committee ultimately "accepted" the terms proposed in the KEA letter, dated September 10, 1997.[77] In fact, all the most recent evidence shows that the Cultural Committee did not endorse the proposed mitigation package. *See attached,* December 19, 1997, Yuma Daily Sun, article "Tribe vows to fight proposed gold mine." ("We're not going to allow it on our ancestral land. The tribe, the tribal council, the cultural committee will stand by this. There is no compromise." Quechan Tribal President Mike Jackson Sr.; DEIS/R 2, Appendix L, p. 309).

Moreover, that the "mitigation package" was allowed to be submitted to the Quechan Cultural Committee and that mitigation appears in the DEIS/R 2 at all, attests to the fact that the Quechan were continually told by the responsible agencies that the mine would be permitted over their continued and

---

issues of access, collection and use of plants and animals, protection of religious places, and incompatible land and resource uses. (BLM Manual, III-E, p. 17).

[75] *See attached,* Jerry Mander, In the Absence of the Sacred, Sierra Club Books (1991) pp. 215-219, "Table of Inherent Difference," which enumerates the tendencies of native peoples to not recognize the concept of "mitigation" for resource loss. These cultures are typified by no private ownership of resources such as land, water, mineral or plant life; the entire world is viewed as alive: plants, animals, people, and rocks; living "within" nature's limits and the natural ecosystem encouraged and only mild alterations of nature to satisfy immediate needs is acceptable, not surplus production; and humans not viewed as superior, but equal parts of the web of life.

[76] Jerry Mander, In the Absence of the Sacred, Sierra Club Books (1991) pp. 220-221.

[77] *See also attached,* September 5, 1997, unsigned letter from Steve Baumann of Glamis Imperial to Pauline Owl, Quechan Cultural Committee Chairman, designed to "buy" silence and nonresistance from the Quechans. "[F]ollowing successful receipt of permits to proceed with the Imperial Project" and "support during the permitting process for the Imperial Project" the Quechan would be offered $112,320 in salary, use of a "new ¾ ton pickup truck" and "up to" $50,000 for funding of a "baseline" geoglyph study. Some may view this mitigation "offer" as "beads and trinkets," '90s-style.

continuing vehement objections and religious concerns.[78] The extreme, coercive pressure to submit to mitigation continues: "Although the Quechan are reluctant to discuss mitigation at this time, it is recommended that they be encouraged to consult on this matter in the future." (Native American Consultation, p. 35)(emphasis added). Nonetheless, despite this attempt at coercion, unfamiliar procedure, and coercive tactics in both consultation and in the DEIS/R text itself, the Quechans have stayed true to their path.[79] One may not rip apart St. Peter's in order to sell the marble. Nor shall this sacred site, on federal public land, become one more potential "National Sacrifice Area" waiting to become another Superfund site.

030 **B. BLM, Imperial County & the Applicant Cannot Override A Religion**

BLM and the Imperial County Board of Supervisors have many powers but they lack the authority to override a religion. Wisconsin v. Yoder 406 U.S. 205, 213 (1972) (state failed to make an adequate showing that its interest in establishing and maintaining an educational system overrides the defendants' rights to the free exercise of their religion); Northwest Indian Cemetery Protective Association v. Peterson (N.D. Cal. 1983) 565 F.Supp. 586, *modified*, 764 F.2d 581 (9th Cir. 1985) (court held government lacked compelling governmental interest sufficient to override Northwest Indians' religious interests in area proposed for timber harvesting and road construction). Moreover, for the Board of Supervisors to approve a project that will have significant environmental effects that cannot be avoided or substantially lessened, it must make an express written statement that, because of the project's overriding benefits, the agency is approving the project despite the environmental harm and must set forth the reasons for its action. PRC §21081(b); 14 Cal Code Regs §§ 15043, 15093(a).[80]

This requirement reflects the statutory policy that public agencies must weigh a proposed project's benefits against its unavoidable environmental risks and must find the adverse impacts "acceptable" if the benefits outweigh those costs. (Kostka & Zischke Practice Under the California Environmental Quality Act First Ed. Nov. 1997 update, § 17.22). Indeed, the failure to employ this balancing analysis may be grounds for nullifying any project approval. San Francisco Ecology Center v. City and County of San Francisco (1975) 48 Cal.App.3d 584, 589. Only those interests of the highest order and those not otherwise served can overbalance legitimate claims to the free exercise of religion. Wisconsin v. Yoder 406 U.S. 205, 215 (1972). The loss of the Quechan religion cannot be deemed "acceptable" by BLM or the Imperial County Board of Supervisors. Further, BLM and the Board will have to bear the burden of proof to demonstrate, with substantial evidence in the record, how it *would* be "acceptable."

---

[78] In thinking that mitigation for cultural resources was "equivalent to" mitigating for negative impacts religious practices, BLM and the applicant exhibited bias. In its best light, this error may have been a result of miscommunication, misunderstanding and linguistic differences.

[79] BLM, the consulting firms and other public agencies should examine their "human subjects policies" and determine where deviations from protocols have occurred in processing this project. The potential adverse impacts to the tribe and its participating members should be part of the "social impacts assessment" and/or costs analysis for the proposed project.

[80] Present counsel recently prevailed in a Superior Court case on the very issue of the agency's failure to support its findings with substantial evidence in the record. (*See*, Statement of Decision, Save Our Forest and Ranchlands v. County of San Diego, San Diego Superior Court Case No. 698562).

031 1. The Proposed Project's Environmental Costs are Enormous

Comparative value of the estimated costs of a project against its expected benefits, becomes very relevant when an agency must, as here, adopt a Statement of Overriding Considerations. The environmental costs of the proposed project are enormous and include the utter decimation of a people's religion and culture. Cultural remains are "irreplaceable." (FEIS for CDCA Plan, Appendix Volume D, Appendix VII: Cultural Resources, Part 11 "Educational Awareness" p. 71). All throughout the DEIS/R 2, one reads about the permanent loss of culture and religion that would follow the implementation of the proposed project.

The DEIS/R 2 also *admits* to significant impacts to air quality and biology, *significant unavoidable* impacts to cultural and paleontological resources, *significant and unmitigable* impacts to visual contrast and *purports* to have adequately mitigated impacts to hydrology (surface waters and ground water), noise, land use and public safety. (*See,* Imperial Project DEIS/R 2 "Summary," November 1997). The local and national public controversy surrounding the proposal is well-documented in the record and underscores the public's perceptions and substantiated grave concerns about the proposal *in spite of* the proffered mitigations and confused conclusions of significance in the environmental document. (*See attached,* Ed Hastey March 11, 1998, letter to Attorney James Good, stating that a second extension of comment was granted, "based upon the magnitude of local interest, and more recently, national interest.") That the public places a "high value" on cultural remains and would like to see more sites protected is undisputed. (FEIS for CDCA Plan, Appendix Volume D, Appendix VII: Cultural Resources, Part 11 "Educational Awareness" p. 71).[81] That it is not possible to place a "dollar amount" on a religion is inapposite: no such "economic" valuation was required for an administrative law judge to make null and void mining claims in Idaho.[82] Yet, the Indian Pass facts are stronger in that the Quechan religion is not a commodity that can be bought or sold, unlike building stone. (*See attached excerpt from Appellant's Brief and supporting declaration,* Morongo Band of Mission Indians v. Federal Aviation Administration et. al, U.S.App.Ct. 9th Dist. No. 98-70033 ("[Prayer and meditation is] not for sale, and it hurts when it is ripped away by jet noise. There is nothing else that can be taken from us. This is the last thing that can be done to hurt us, to take away our spiritual essence as a people.") No such purely economic valuation is required to establish the environmental and cultural costs of this project, on these facts.

Similarly, the risk and risk factor associated with the continued processing of this project must be factored in as a cost. "Risk" refers to the possibility of not receiving the amount of anticipated income and/or cash flow during the productive life of a mineral operation and/or experiencing long delays on lead time until first production. This is one item of cost that is more amenable to quantification. Several common concepts that must be weighed in deriving the cost of risk for this project are: potential significant grade variability of reserves causing lower income and/or higher operating costs to control mill or processing feed (it is worth noting that Glamis Gold itself has indicated the low grade of the proven and probable ore as well as the very high strip ratio for mining the Imperial Project at its website <http://www.glamis.com>); loss of ability to maintain production, and/or to sell products into a

[81] Archaeology not only has humanistic value and appeal, but also, high educational, historic and scientific value and has the potential to interlock with anthropology, geology, botany, and philosophy. (FEIS for CDCA Plan, Appendix Volume D, Appendix VII: Cultural Resources, Part 11 "Educational Awareness" pp. 72, 74).

[82] A split decision was made in the case at the IBLA on appeal, however, United States of America v. United Mining Corp. (1994) IDI-29807, appealed United States v. United Mining Corp. (February 10, 1998) IBLA 95-133 (dissent) ("There is not a marketplace for buying and selling unique formations in their natural settings on public lands.").

competitive marketplace at anticipated prices resulting in a significant or total loss of market share (the fall of the gold market over the last several months has been well documented and is expected to continue as governments loan and sell off their gold reserves in favor of other securities); untimely completion of projects with available depreciable capital resulting in missed deadlines and eventually loss of income: and planning or permitting (environmental and reclamation) problems causing delays in mineral operation startup and/or delays during operating life that results in delay or initial income, or reduction of income over operating life of the mineral operation.[83]

032 **2. The Proposed Project's Benefits are Speculative & Unsubstantiated**

On the other hand, the claimed benefits of the proposal are weak, speculative and unsubstantiated in the record. In fact, the evidence in the record not only fails to support the proposed project's benefits in contravention of NEPA, but the DEIS/R 2 actually admits that project expenditures will be so diffuse among several states, "that no significant economic stimulus to any individual economy would occur." (DEIS/R 2, pp. 6-2; 4-110 - 4-111). Further, with its Picacho Mine project, Glamis Imperial, a foreign (Canadian) Corporation, has not realized a substantial benefit to the area: its primary offices and workforces were located outside of California (Id.; DEIS/R 2 "Summary," p. S-6); it employed few residents of Imperial County; and tellingly, for the last twenty years of its operation in Imperial County, this corporation has consistently selected out-of-town environmental consultants (hiring those from as far away as Colorado). The applicant himself knows that this is not a "local" project with local benefits: " . . . I mistakenly assumed we were a known local business. I now realize that we should have had more of a local presence." (March 3, 1997 Imperial Valley Press letter to the editor, from Steve Baumann, General Manager Chemgold, Inc.).

033 **a. Applicant's Economic Justification Rests on an Incomplete Record**

From my perspective as a land use attorney, I would be most uncomfortable to have this record form the basis for my client's statement of overriding considerations: the document admits there will be no significant local economic benefit upon which to hang any proposed override. Moreover, NEPA requires, where economic analysis forms the basis of choosing among alternatives, that the analysis not be misleading, biased or incomplete. Oregon Natural Resources Council v. Marsh 832 F.2d 1489, 1499 (1987). The economic justification for this proposed project is incomplete. The entire impact section of the "Socioeconomics Section" in the sixty-five page Imperial Project DEIS/R 2 Summary, November 1997, contains a scant six words (one sentence): "Only positive economic benefits would result." (Id. p. S-56). The applicant's assertions about the project's purported "social" and economic benefits are as specious as they are untrue.

034 **b. Applicant Wholly Fails to Examine the Negative Social Impacts of the Project**

Just as cultural resources have (erroneously) come to be equated with archaeological sites and historic buildings (objective culture), social factors, important in their own right, are often subsumed entirely by economics, under the rubric of "socioeconomics." (King, "How the Archeologists Stole Culture: A Gap in American Environmental Impact Assessment Practice and How to Fill It," Environmental Impact Assessment Review Vol. 18, No. 2, March 1998, p. 126). This is precisely the problem with the Imperial Project's environmental documents. (*See infra* section on BLM's inability to mitigate for the loss of a religion). From a social impacts standpoint, experts have warned about the

[83] *See,* BLM's 1996 Special Publication Location and Patenting of Mining Claims and Mill Sites in California J.R. Evans, Editor, pages 101-102.

"hyphenization" of SIA, that is, linking the "social" with some nonsocial but more easily quantifiable environmental factor, such as economics: one of the most common mistakes in the social science area of impact assessment is to confuse socioeconomic with social phenomena. Any study which focuses on the hyphenization of the social is not a SIA. (King, "How the Archeologists Stole Culture: A Gap in American Environmental Impact Assessment Practice and How to Fill It," Environmental Impact Assessment Review Vol. 18, No. 2, March 1998, p. 126). As is the case with the Imperial Project, King found that 90 percent of the EISs he reviewed discussed the social aspects of the environment primarily in terms of demography, employment and economic statistics. (King, Thomas F., and Rafuse, Ethan. 1994 NEPA and the cultural environment: An assessment and recommendations. Report submitted to CEQ. Wash. D.C.: CEHP Inc.) Of those that did make some reference to cultural cohesion or social stability, most of the references were dismissive, along the lines of: "the project will not affect racial minorities." Id. Most such statements were not accompanied by supporting data or analysis. Id. The Imperial Project has employed similar dismissive tactics and has conducted no social survey or analyses.

035 **c. Purported Economic Benefits are Wholly Misleading & Overstated**

From an economics standpoint, while the applicant repeats his self-serving, unsubstantiated and conclusory opinion about his project's purported benefits, as recently as two months ago, 125 workers, or approximately one-half of the workforce, were laid off at the nearby Mesquite Mine. (*See attached*, January 29, 1998 Imperial Valley Press article, "125 workers laid off at the Glamis plant"). In fact, because gold prices have tumbled to their lowest dollar level in nearly two decades, George Molebatski of the National Union of Mineworkers has stated, "If this were a Christian society, I would say we need a divine intervention." (*See attached*, January 17, 1998, Los Angeles Times article "Mining Layoffs Loom as Gold Loses Its Glitter."). Yet the DEIS/R 2 is silent on these significant events. If, as the DEIS/R 2 states, the complete backfill alternative is infeasible because the alternative "would not be an economically viable project," one must wonder as to how little profit-margin exists for this proposal, particularly in light of the extensive bonding that should appropriately be required. (DEIS/R 2, p. 2-63). Finally, inconsistent information abounds about the expected life of the project. Glamis Gold news releases indicate that the expected life is a mere 12 years, while the DEIS/R 2 says it will be variously, 19 years (DEIS/R 2, p. I-1) or 20 years (DEIS/R 2, p. 4-109). It appears that Glamis Gold is trying to pull the wool over the eyes of the Imperial County Board of Supervisors in an effort to exaggerate the tail of expected economic benefits to the area. Based on the data provided, no substantial evidence of overriding economic benefits can be established.

036 **3. The Rules on "Striking the Balance"**

It is well-established that a jurisdiction cannot "rush to override." 40 CFR 1502.23. By this, it is meant that the agency and applicant must demonstrate that it has incorporated every feasible mitigation measure into the final project. If after all of this mitigation is analyzed and incorporated, significant and unmitigable impacts still remain, only then can the jurisdiction approve an override. This means that complete backfilling and restoration, and an exploration of tunnel mining (to better protect surface resources), for example, must be incorporated into the project design --- before an override can even be considered. We submit that based on the paltry "mitigations" proposed in the DEIS/R 2, that the applicant has failed to carry its burden of incorporating all feasible mitigation measures into its project. Glamis Imperial cannot, therefore, be "enabled" to rush to an override and be allowed to process a Statement of Overriding Considerations in this shotgun manner.

Only once the jurisdiction is *properly* at the override stage, can it then balance the competing interests.[84] To accurately perform this balancing, the agency must make a "fully informed and publicly disclosed" decision that "[s]pecifically identified expected benefits from the project outweigh the policy of reducing or avoiding significant environmental effects of the project." Cal Code Regs § 15043(b) (emphasis added). This means that the public must have access to and assess company assertions about available gold and the economics of its operations. This means that BLM must independently review the applicant's purported economic benefits specific to this particular site and operations. 40 CFR 1506.5(a).[85] Accordingly, BLM has recently observed that,

> It is our understanding that no bulk testing of material from the project area was completed by Glamis-Imperial, and that your experience with the Picacho mine [sic] provided the basis for some of the technical information supporting the recovery rate and operating parameters at the Imperial Project. We have found that small variations in this rate will cause significant difficulties in the economic viability of the project. Because it is our understanding that pilot scale testing was not completed in support of this project, our concern rests on the adequacy of information used to support Glamis-Imperial's feasibility and economic analysis. (*See attached,* March 26, 1998 correspondence from Terry Reed, BLM Field Manager to Steve Baumann).

Incidentally, this required balancing is not unfamiliar to BLM: the BLM manager may be put in the position of having to weigh a proposal for a legally supported use, such as mining, in an area regarded as sacred and inveterate. (BLM Manual II-C, p. 6). NEPA also mandates that BLM define and weigh Indian uses in an area targeted for development. (BLM video, "Sacred Domain: Tribal Perspectives in Land Use," script written by Bruce Crespin of BLM).

It has been stated in the record that the mining potential at this site is of a very poor grade ore with a very high strip ratio. (*See also attached,* Glamis Gold Ltd. - Reserve Estimates sheet from the company's webpage). It will be very costly to obtain and process this ore. In fact, conditions are such that the BLM is currently, "examining the economic environment in which the mine will operate . . . this review is necessary because the environmental and economic climate specific to the Imperial Project creates questions that are not answered from the public record." (*See attached,* March 26, 1998 correspondence from Terry Reed, BLM Field Manager to Steve Baumann). The record does demonstrate

---

[84] In some respects, balancing to be performed for the Statement of Overriding Considerations has some similarities to the "comparative value test" in mining law. *See,* United States of America v. United Mining Corp. (1994) IDI-29807, appealed United States v. United Mining Corp. (February 10, 1998) IBLA 95-133 (Idaho decision appealed to the Interior Board of Land Appeals, IDI case and IBLA dissent. are examples of a judicial decision upholding BLM's contest of claimed lands on the grounds that the aesthetic and geologic value of the claimed land was more valuable than any minerals which could be mined therefrom therefore nullifying the asserted mining claim). (*See also,* Price Thomas (denied a mining plan of operations without using the term "comparative value" per se); FLPMA Section 601 governing "multiple uses" refers to Section 103 (which states that an override may need to look at, and weigh, other than mining values.)

[85] This CEQA requirement echoes BLM's 1996 Special Publication Location and Patenting of Mining Claims and Mill Sites in California J.R. Evans, Editor, "Any information acquired from a potential or actual operator, must be verified to assure its application and acceptance in the economic analysis. It may be necessary for an operator to provide specific information or analyses that may be requested by the mineral examiner to independently verify data. In large operations, the complexity of data supporting reserve estimation, pit design, and mining feasibility provides small opportunity for "fixing" or "rigging" data." (pages 89-92)(emphasis added).

that the project's economic costs are great and that the long-term corporate health of this project risky. In any case, an override must be based on more than the sole stated objective of increasing economic growth. Citizens for Quality Growth v. City of Mount Shasta (1988) 198 Cal.App.3d 433 (court struck down a statement of overriding considerations supported by Shasta's long-standing policy to allow community development in wetlands which offered a unique location for potential growth of the city's economy which did not discuss the six project alternatives or wetland mitigation measures). Von Werlhoff has stated,

> And, it further seems to me, that the Imperial Project has not demonstrated any social value in its plan while the Quechan has demonstrated (and supported archaeologically) that the targeted land has traditional spiritual values that are as current today as they were in primordial time.[86]

Finally, any balancing by decision makers must weigh the strongly negative impacts of the proposed project on the Quechans' social lifeways and beliefs, as noted above. King notes that, "It is easy to count things: it is (I think) less easy to weigh and balance impacts that cannot be counted, but it is often these very nonquantifiable factors that are most important. As the Interorganizational Committee on SIA pithily puts it, we should 'deal with issues and public concerns that really count, not those that are just easy to count.'" (King, "How the Archeologists Stole Culture: A Gap in American Environmental Impact Assessment Practice and How to Fill It," Environmental Impact Assessment Review Vol. 18, No. 2, March 1998, p. 128).

037

4. Authority that Highly Sensitive Lands Must Be Held to an Even Greater Showing of Economic Benefit & Viability

In other words, the benefits of the proposed project must be actual and demonstrated. Relying on what Leshy, BLM's Chief Solicitor, called the federal government's "traditional tenderness toward mining industry activities" will not be sufficient to withstand close judicial scrutiny. (John Leshy, The Mining Law: A Study in Perpetual Motion Resources for the Future, Inc., Wash, D.C. (1987) page 148). Mineral deposits of arguable economic viability located in areas of sensitive or pristine natural environments tend to be undeveloped because of public opinion. (*See generally attached,* articles from local newspapers and periodicals evidencing the public controversy surrounding the proposed mine). Surely a prudent person would weigh that factor into its corporate decision making matrix.

Quite significantly, in Leshy's words, there appears to be no reason in logic, therefore, why a claim in such areas should not be held to even a greater showing of economic viability. (Leshy, at 156).[87] Holding these highly sensitive public lands to a greater showing of economic viability would also appear consistent with mechanisms to advance the public trust in public lands --- the courts properly evince reluctance to approve decisions based upon ignorance; and when that factor is joined with the courts' strong feeling that diffuse public uses are both poorly represented and, by their nature, somewhat difficult to measure, judicial wariness is inevitably enhanced. (Sax, "The Public Trust Doctrine in Natural Resource Law: Effective Judicial Intervention," 68 Mich. L. Rev. 473, 564 (1970)). Furthermore, state regulation of mining practices is "focus[ing] increasingly on environmental protection rather than

[86] Jay von Werlhoff correspondence, March 8, 1998.

[87] The legislative history of CEQA also supports the view that environmental values are to be assigned greater weight than the needs of economic growth. San Francisco Ecology Center v. City and County of San Francisco (1975) 48 Cal.App.3d 584, 591.

on facilitating mineral activities." (Leshy, at 18). BLM has recognized that, "[b]oth Federal and State legislation and policy have increasingly provided for the preservation and protection of Native American values and cultural resources, particularly where these values are located in traditional land areas." (FEIS and Proposed Plan, California Desert Conservation Area, Appendix Volume D, Appendix VIII Native American, Part 4 "Legislation and Native American Values" BLM September 1980, page 105)(emphasis added). The Department of Interior has accordingly held that the cost of complying with environmental laws and regulations are routinely to be included in the balancing equation. (Leshy, at 162). These interests must be weighed in the record. In the words of Leshy,

> Recent judicial decisions concerning environmental protection under the Mining Law can be read to betray a growing weariness on the part of the judiciary with what are perceived as technical legal arguments to escape such regulation. The hardrock mining industry is regarded as coming to court to seek special protection or exemption from modern environmental regulations that are applied routinely to practically everyone else. It is not surprising that most modern courts, holding no special brief for the Mining Law, regard those arguments with skepticism, and place a heavy burden of persuasion on those assuming a special treatment. In the courts, then, and to a lesser extent in the agencies, the status of hardrock miners is no longer exalted. At least when their activities collide with environmental protection imperatives, they have lost their former luster. (Leshy, at 224).

As stated *supra*, the costs of the proposal are overwhelming and well-documented. The high costs must be balanced against the low value and questionable validity of the mining claim and the purported benefits of the proposed project.[88] Nor has the BLM performed an independent analysis of the applicant's economic figures and data. Garv Hoefler v. Bruce Babbitt 98 Daily Journal D.A.R. 2777 (affirmed that the DOI has plenary authority over the administration of public lands, including minerals on those lands, which includes jurisdiction to determine the validity of the mining claims on public lands); Best v. Humbolt Placer Mining Co. 371 U.S. 334, 337 (1963) (if the DOI finds the claim invalid, it may declare the claim null and void); U.S. v. Bagwell 961 F.2d 1450, 1451 (9th Cir. 1992) (if the U.S. determines that the possession of a mining claim is in bad faith, it may chose to bring an action in federal court to recover possession of the public land without first adjudicating the validity of the claim in administrative proceedings). Thus, it may be premature for the BLM to move forward on this project until it has performed its Economic Evaluation for the Validity of the Mining Claim.

Put simply, BLM and Imperial County cannot legally justify a Statement of Overriding Considerations for this project, on this record, at this point in time, if ever. Sierra Club v. Contra Costa County (1992) 10 Cal.App.4th 1212, 1223. As was stated in the Mt. Graham matter, "[i]f construction is

---

88 Members of the Quechan tribe, as well as other Native Americans, do not recognize the 1872 Mining Act and its traditional implementation methodology. (*See attached,* National Congress of American Indians Resolution #SFE-97-092). Preston Arroweed noted that, "the 1872 Mining Act was enacted by Congress in the same years that Native Americans were being shot in California." (Arroweed presentation at Palomar College's American Indian Science & Engineering Society conference, March 27, 1998). Also, several non-Indians, like Edie Harmon, the Sierra Club, and the Mineral Policy Center have performed research and analysis bringing into question the very validity of the mining claims at issue. That the Quechan do not recognize the 1872 Mining Act may satisfy the "hostile use" prong for establishing prescriptive easements. U.S. on Behalf of Zuni Tribe of New Mexico v. Platt 730 F.Supp. 318 (D.Ariz. 1990) ("Hostile" as applied to possession of realty does not connote ill will or evil intent, but merely a showing that the one in possession of the land claims exclusive rights thereto and denies by word or act the owner's title).

allowed to proceed, it will prove to Apache people that once again, as so often in the past, their own religious beliefs count for nothing when brought into conflict with the interests of powerful institutions controlled by non-Indians." (emphasis added)[89] The loss of the Quechan religion cannot "count for nothing" in the balancing process. Unsubstantiated economic benefits and the misplaced desires of federal agencies cannot outweigh the rights of American people to traditional forms of religious practice.

C. Proposed Mitigation for Project-Specific and Cumulative Adverse Impacts to Material Culture and Quechan Religious Practice Inadequate

038 **1. Proposed Mitigation for Project-Specific Adverse Impacts to Material Culture Inadequate**

Aside from the unmitigated harm to the Quechan's spiritual practices from the project, adverse impacts to important material cultural and historic resources remain significant and unmitigated.[90] Unlike the majority of the Mt. Graham controversy, where the bulk of the concern involved the ga'an (mountain spirits) defined by the Forest Service as "intangible cultural properties," a substantial aspect of the controversy here, surrounds existing ancient material cultural property, residing on sacred land. [91] This mining project, on these lands, amounts to nothing less than subsidized cultural vandalism and defacing of a national monument, akin to destroying many pages of the last copy of the Bible. "The things they left behind for us - is carved on the rocks, known as petroglyphs. It tells us many things that we need to know to continue our life. The things they saw. What to look for. What is ahead, or what is behind them. It is a message, a way of communications." Testimony of Wally Antone, Quechan member, Quechan Cultural Committee meeting, August 16, 1997, (emphasis added). Such impacts to tangible cultural properties remain unmitigable and unmitigated.[92] Moreover, BLM's own Mitigation Guidelines for Cultural Resources, as set out in the FEIS, do not appear to have been incorporated into this proposed

---

[89] Dr. Keith Basso, anthropologist and expert on the Western Apache at the University of New Mexico.

[90] Generally speaking, a TCP's history or potential to yield information, if relevant to its significance at all, is properly secondary to its association with the traditional culture of the group that ascribes significance to it. (National Register Bulletin 38, p. 12).

[91] Though, to the Apache, the ga'an are as tangible as wind and trees, the environmental review laws had heretofore lacked an appreciation for other than Judeo-Christian religious practice. This lack of recognition has been offensive to many Native Americans. "Sacred," means that Dzil Nchaa si an is considered a living locus of spiritual energy, not a geographical location or ecological description. It is the home of the ga'an, roughly translated as "mountain spirits," who give their power to the Apache crown dancers who hold ceremonies on Mt. Graham. The mountain itself protects the Apache from illness as well as from enemies. It is the source of power to medicine men and women and a teacher of songs and other sacred knowledge. It is a source of medicinal plants, and plays a central role in many legends including the story of the origin of horses. Finally, with two or three other peaks, it defines as well defends the lands of the Apache. Unlike Indian Pass, the area of concern to the Apache, held few material cultural resources.

[92] Despite the admitted significant impacts of the project on material cultural resources, amazingly, the applicant does not appear to recognize the mitigation, instead, leaving the merely "recommended" mitigations as a "burden" for BLM to perhaps implement in the Record of Decision. Thus, the proposed mitigation is highly uncertain. (*See*, Imperial Project DEIS/R 2 "Summary," pp. S-44 though S-53: "*The following mitigation measures were identified by KEA Environmental, Inc. as a result of the inventory and evaluation of cultural resources that may be affected by the Proposed Action. **These mitigation measures have not been incorporated in the Project by the Applicant**, but **may** be incorporated, **in whole or in part**, into BLM's Record of Decision* . . . "(italics original).

project. (FEIS for CDCA Plan, Appendix Volume D, Appendix VII: Cultural Resources, Part 5 "Mitigation" pp. 45-53).[93]

The recent announcement for the Valcamonica Symposium 1998, "Prehistoric and Tribal Art: Shamanism and Myth," elegantly makes this case:

> . . . visual art is an essential channel for the evocation of myths. It includes graphic re-enacting of the myth and may accompany the evocation of myth in music and dance. Therefore, visual art is also a means for the archaeologists to trace the origins of myths.
>
> Prehistoric and tribal art is rapidly becoming a cultural and scientific discipline of primary importance. Contemporary artists, philosophers, semiologists, linguists, psychologists and religious scholars are developing a growing interest in this aspect of our intellectual heritage. In fact, the oldest forms of human expression and artistic creativity are one of the most revealing and stimulating testimonies of our past providing precious information on the origins of imagination and our capacity for abstraction and synthesis and on human intelligence. Rock art and archaeology are also the most important source of information we have about man before the invention of writing, serving as a vital tool for the reconstruction of the human adventure. The number of known rock art locations has increased immensely throughout the world in the last few years and has necessitated a revaluation of many established attitudes in the field.

The Indian Pass site has much to offer all of us. The proposed mitigation for adverse impacts to its material culture is inadequate and proposed impacts would disallow the opportunity to better understand their importance when methods of technological assessment improve.

039 **2. Cumulative Impacts to Material Culture and Quechan Religious Practice are Unmitigated & Unmitigable**

Over time in Imperial County, adverse cumulative impacts to material culture and Quechan religious practice have been great.[94] *For example, since the Medicine Trail (portion destroyed at Picacho*

---

[93] For example: detailed mapping of trail systems at least regionally or subregionally; photo recordation; 100 % collection of directly associated affected artifacts; mapping and excavation of directly associated features; and ancillary field studies as determined through the research design process, have not been done, and not planned to be performed, to date.

[94] Not all of the cumulative impacts are attributable to major projects. Adverse impacts have also been caused by small projects, including the placement of monitoring, piezometer, production and test wells and ancillary impacts, on rich cultural areas. (DEIS/R 1, Appendix J-1, at p. 28). Many of these impacts have been done without the benefit of permits or environmental review. This raises the issue of pre-emptive destruction of cultural resources in violation of NHPA (1992 amendments) Section 110 (k):

> Each Federal agency shall ensure that the agency will not grant a loan, loan guarantees, permit, license, or other assistance to an applicant who, with intent to avoid the requirements of section 106, has intentionally significantly adversely affected a historic property to which the grant would relate, or having legal power to prevent it, allowed such significant adverse effect to occur . . .

Mine) is one of only two key trails that allow actual and dream travel to Avikwaame, the proposed impacts from the Imperial Mine to the Trail of Dreams, would combine to cut off both key corridors to Avikwaame. (DEIS/R 2, p. 5-16). The vast majority of these impacts have gone "unnoticed" or improperly analyzed. For example, *see* the Picacho Mine Expansion FEIR, May 19, 1982, pp. 1-14, where Chemgold applied a faulty cumulative impacts analysis: "[B]ecause other activities within the cumulative impact study area are generally isolated from each other and from the Picacho Mine project either by distance or intervening topography, *the potential for a cumulative impact on most of these resource categories is minor.*" Thus, the interconnected "systems" nature of the Quechan cultural environment has been too long ignored by applicants and agencies.

For the Imperial Project, its DEIS/R 1, Cultural Technical Appendix, p. 5-16, has a mere one paragraph dismissal of the potential for adverse cumulative impacts to cultural resources around Indian Pass ("As such, the cumulative effects of the identified projects and uses will be below the level of significance."). The Imperial Project's second DEIS/R, however, admits that, "*If [the most recent cultural resources inventory] had been conducted before any exploration drilling of the area in the 1800s was conducted, then numerous impacts to trails, site areas, and features would have been avoided or required mitigation.*" (DEIS/R 2, Appendix L, p. 259). Finally, the proposed project's DEIS/R 2 concedes that, "implementation of the Project, taken together with past, current, and reasonably foreseeable future projects *would contribute to the already significant cumulative effects to cultural resources.*" (DEIS/R 2, p. 5-17)(emphases added).[95] Too bad the horse is already out of the barn.

040 **a. Destruction from Other Projects in the Area is Systematic & Great**

This cultural vandalism is even more sinister when one considers the cumulative impacts of the proposed project with previously approved, unmitigable and unmitigated projects.[96] No reasonable effort has been made in the past to identify properties of traditional cultural value to the Quechan Nation. Past destruction of sacred sites at Pilot Knob (trail segments),[97] Picacho Mine (portion of the Medicine Trail, trail system/spirit break, and key teaching area), Mesquite Mine (key trails, geoglyphs, and cleared circles),[98] Cargo Mucachos (trails),[99] and other locations (the construction of the All-American canal

---

If such a violation of Section 110(k) is found, for either the negligent, unpermitted testing by Glamis Imperial at Indian Pass and/or the pre-emptive apparent violations of Section 106 clearance by Chemgold at Picacho, the federal government may be unable to issue a permit for mining on this site to the applicant.

[95] Other projects negatively impacting the Quechan and other Yuman tribes' cultural and religious sites include military, BLM and other industrial projects in western Arizona. (Lorey Cachora, SCA 32nd Annual Meeting, Native American Cultural Resources Workshop comment).

[96] "Prehistoric and historic remains within the California Desert are being depleted at a rate which approaches 1 percent per year." (California Desert Conservation Area Plan ("CDCA Plan") Chapter 3 "Cultural Resource Element", BLM 1980, page 22). In fact, the U.S. Department of Justice produced an educational video in 1991, "Assault on Time," aimed at educating off-road vehicle enthusiasts and the public generally as to the extreme fragility of desert resources and that certain features are sacred. It is difficult, then, to see how the government can ask the public at large to protect and respect the same types of resources that other branches of the federal government are set to destroy. (Personal Communication, David Carmichael, Ph.D., Anthropology Department at the University of Texas at El Paso, April 1998).

[97] Pilot Knob is one of only two areas in southern California presently specifically called out as examples of scared sites. (BLM Informational Bulletin No. CA-98-37, March 9, 1998).

[98] The Indian Pass trail system appears to have been a continuum of one of the north-south trails that ran though, and was destroyed by, the Mesquite Mine operation. (DEIS/R 1, Cultural Technical Appendix, p. 59)

wreaked havoc with the lands of spirit and power) has already resulted in the incremental, permanent loss of material culture and sacred geography by the mining industry within several miles of the site. (*See*, DEIS/R 2, p. 5-16; Table 5.1, pp. 5-18 - 5-19).

Sadly, these previous mining projects did not adequately avoid or mitigate adverse cumulative impacts to cultural materials. (Pilot Knob Quarry; various material sites, borrow pits, test sites; the All American Canal; water reclamation dams; Yuma Training Range; and transmission lines). Other land use activities did not even conduct cultural resource studies (DEIS/R 2, p. 5-17) and those that did initial project inventories, usually concluding that impacts to discrete flaking stations were not significant, "can be questioned" due to the absence of an evaluation of context within the larger APE (DEIS/R 2, Appendix L, pp. 125-126) ("Impact-specific inventories . . . lacked a larger view and context . . . [and] were hampered by transect intervals that did not meet the difficulties of working on this type of desert pavement."). That this is the last intact sacred geography for the Quechan, analogous to the last stand of old growth forest, is undisputed in the record.[100] The connection between the material culture and the religion of the people who traditionally lived in the area is also undisputed. Preservation of this remaining district is absolutely essential to the continued survival of the Quechan religion and culture. So much has already been lost that what little is left is absolutely essential.[101]

041 **b. Cumulative Impacts Indicate a "Pattern & Practice" of Nondisclosure of Adverse Impacts by BLM and the Applicant**

The Quechan Cultural Committee noted this massive cumulative impact during several consultations, when they expressed concern about the amount of development that has already occurred throughout its traditional territory. They understandably indicated that they are intent upon preserving the undeveloped portions of their traditional territory, and on stopping all further encroachments. (Native American Consultation, pp. 18-19, 21). Other areas have been destroyed, but at least these were more away from the important trails and their associated sacred places. (Native American Consultation, p. 21). That these other numerous areas have been destroyed, points up the seeming "pattern and practice" of BLM and the Imperial County government acting hand in glove to incrementally consume the Quechan religion. Such practice is contrary to the law. East Bay Mun. Utility District v. Department of Forestry & Fire Protection (1996) 43 Cal.App.4th 1113 (Department of Forestry was found to have followed a pattern and practice of improperly assessing the cumulative impacts of logging and, as a consequence, was improperly approving timber harvest plans submitted by the logging company).

For example, the State Office of Historic Preservation's recent Comprehensive Statewide Historic Preservation Plan, focuses on our State's rich archaeological and cultural heritage. It is "a concise, strategic document that describes the vision for historic preservation in California and outlines future direction for the [OHP]. The State Plan identifies the critical preservation issues, needs,

---

[99] An ancient trail that linked Pilot Knob along the Cargo Mucachos Mountains with Indian Pass has been impacted by mining operation there. (DEIS/R 1, Cultural Technical Appendix, p. 63).

[100] "[T]he data in Table 5.1 support the perspective of the Quechan that recent projects have resulted in significant cumulative effects upon sites of high value to their contemporary heritage and cultural survival." (DEIS/R 2, p. 5-17) (emphasis added).

[101] The DEIS/R 2 recognizes that, "[the religious and spiritual aspect of trails] is a resource that has sometimes been poorly understood, underesteemed, and poorly protected in the past." (DEIS/R 2, Appendix L, p. 116).

challenges, and opportunities for historic preservation in California."[102] (OHP's *Forging a Future with a Past: Comprehensive Statewide Historic Preservation Plan for California*, December 1997, p. 1). This benchmark report shows large Imperial County at the very bottom of the list for National Register Listings and Contributions in California by County (four compared to San Diego County's 308 and Los Angeles County's 1768) and for National Register Determinations-of-Eligibility in California by County (one compared to San Diego County's 273 and Los Angeles County's 1906). (*See attached*, figures from OHP's *Forging a Future with a Past: Comprehensive Statewide Historic Preservation Plan for California*, December 1997, pp. 83-84.)

Similarly, the applicant's behavior on previous mining projects in Imperial County is highly probative of what it would like to do on the present proposal.[103] There, the applicant performed two EIRs: one for each of its 1981 and 1991 expansions. The 1981 environmental document (FEIR Picacho Mine Expansion, May 19, 1982) says precious little about prehistoric cultural resources, focusing almost exclusively on historic mining resources. The only archaeological/cultural "analysis" in the FEIR observes that, "A pamphlet describing the Picacho State Recreational Area notes that the myths and legends of the Quechen [sic] Indians, who lived along this part of the Colorado River in historic times, 'tend to center around Picacho Peak.'" (Id. at p. 32). No mention was made of present Quechan sacred use of the area. No cultural survey was conducted. No archaeologists were on the EIR Preparation Team. No mention was made of on-site trails.[104]

Next, the applicant's 1992 environmental document (FSEIR for the proposed Chemgold Inc. Picacho Mine Dulcina Pit Phase 2, October 1991) for the Picacho Mine expansion, once again, says nothing about trails in the body of the DEIR text, or in its Cultural Resources Appendix. The text of the FSEIS even erroneously and misleadingly claims that, "[t]here are no objects on or adjacent to the Picacho Mine project that are known to have any relation to the traditional religion of American Indians." (FSEIR, p. 2-9). However, the *subappendix to the Cultural Resources Appendix clearly and remarkably states* that, "[an ancient] [t]rail continues on to the southwest [through the project], but has been totaly [sic] impacted by a mining operation (Chem-gold) [sic] that is operating in this area." The attached Archaeological Site Form and map from a 1984 survey clearly shows the onsite trails and observes that the trail had integrity to the southwest of the site and onto the northeast of the site, possibly linking Picacho Peak with little Picacho Peak. (*See attached excerpts*, Appendix C, Cultural Resources Inventory of Pad #5 at the Picacho Peak Mine).

This interpretation would be consistent with Quechan creation myths. The Avi-Kwame Trail is the single-most important trail along the Lower Colorado River Valley. (Personal Communication Jay

---

[102] The State Plan also incorporates specific archaeological issues and recommendations presented in the 1995 Preservation Task Force Sub-Committee on Archaeology Report of Findings. The Report of Findings on California archaeology is an integral component of the State Plan.

[103] That the ancient trails onsite at the Picacho Mine were "missed" during that project's initial environmental review is a tragedy, but may be partially understandable: it was not until the early 1980's that BLM began to "get ahead of" 106 compliance and artifact hunters to determine, for the cultural resource's sake, how they should best be managed over the long term. (U.S. DOI, BLM, Opportunity and Challenge: The Story of BLM (Sept. 1988) pp. 203, 251). This may be also generally reflected in the early lack of adequate consultation as well: projects in 1981 and even 1991 are emblematic of inadequate consultation despite guidance in BLM's own Handbook, the FEIS for CDCA VIII, p. 99, and the ARPA of 1978.

[104] The document is also internally inconsistent. The text states that, "No archaeological impact is anticipated;" yet the initial study has checked off "yes" that archaeological and/or historic impacts will occur. (FEIR Picacho Mine Expansion, May 19, 1982, Appendix L, p. 6).

von Werlhoff, April 1998). This trail was formed between Yuma and the sacred mountain, the cultural origin of the riverine Yumans and cremation site of the creator Mastamho (or Kumastamko), as told in traditional lore. Id. This trail had and has been in current use as Quechans make religious treks to their sacred site of origin. (Id.; *see also*, Joseph Ezzo The Trail to Avi-Kwami Phoenix 1996). Further evidence that Chemgold was "on notice" about its potential for onsite destruction of important Native American resources, yet turned a blind eye, is also found in Subappendix C to Appendix C of the 1992 document. (*See*, Subappendix C, to EIR Appendix C, Peter Odens, Picacho: Life and Death of a Great Gold Mining Camp (1973) Chapter 2: " Picacho's Indian Heritage" (states that, "[t]he Picacho area was the crossroads of many Indian tribes" and relates the creation myth of the tribes coming down Avikwame over different trails and how" [the Quechan] trail was called Xam Kwatchan which means another going down and from this trail we derive our name - Quechan.")). Remarkably, none of this was even mentioned in the text of the project EIR, nor were their cumulative impacts.

That this key trail was discovered and surreptitiously destroyed during the implementation of the 1981 expansion, without disclosure and notice to BLM, Native Americans or the Imperial Valley College, means that the applicant violated the conditions of project approval. Chemgold was supposed to stop work and call in archaeologists if cultural resources were discovered during project implementation. (FEIR, Chemgold's Picacho Mine Expansion, May 19, 1982, pp. 6-10 ("Should any previously unrecorded archaeological resources be discovered, the Imperial County Planning Department shall be notified, and consultation with a professional archaeologist will take place prior to any disturbance of the site.")). This did not occur, in violation of the Section 106 Process and the specific conditions of project approval (Advisory Council on Historic Preservation, *Section 106, Step-by-Step*, October 1986, pp. 8, 14, 48-49). This past behavior renders unenforceable the presently proposed "treatment" option that, in case of "accidental damage" to sites flagged for avoidance, BLM should consult with SHPO regarding an appropriate mitigation program (for the failed mitigation). (DEIS/R 2, Appendix L, p. 316). Of course, the viability of this mitigation hinges on BLM being notified of the damage, a notification which may very well never occur in practice based on this applicant's previous history in Imperial County mining.

Moreover, that the Archaeological Site Form indicates that the trail was in an area of high site integrity, was curiously clear of all artifacts, and queries whether the trail was cleared by "unknown persons." Given the high density of artifact association on other trail systems in the area (DEIS/R 2, Appendix L, p. 96) ("Trails in the Yuman culture area tend to have some features associated with them;" *see also*, Id. pp. 91, 164, 169, 188, 194, 206, 259, 261, 274), it appears that someone knew about this trail, and tried to "sanitize" the field of study prior to formal survey.[105] Back in the early 1980s, under CEQA, artifacts and archaeological sites yielding artifacts were considered significant --- but trails and rock outcroppings were not considered significant. Thus, since the 1981 Picacho Mine expansion was only a CEQA document (a straight EIR) and not a NEPA document, the applicant may have "pre-surveyed" to remove any items then-deemed significant, namely the artifacts, and purposefully left the trail intact and unrecorded. Such "sanitization," or "informal" site survey and collection, could have been in advance of the later formal surveys and could explain the lack of artifacts normally associated with trails in this area.

This shows the type of behavior we can expect from Glamis Imperial with respect to any mitigation conditions placed on the Imperial Project and its adverse impacts to cultural resources. This also renders laughable the 1992 FSEIR's assurances to the public and decision makers that, "[t]he

[105] As experienced first-hand by von Werhloff, it would not take too long for an archaeological site to be "sanitized" of artifacts, such as pottery sherds. (While teaching a class in archaeological field techniques, von Werhloff flagged 400 sherds with the intention of returning the next day to map them. When he arrived the next morning, he discovered all flagged ceramic sherds had been stolen.) (DEIS/R 2, Appendix L, Appendix B, p. 16).

Cultural Resources, both historic and prehistoric, of the entire Picacho Mine Site were investigated for the EIR "Picacho Mine Expansion'" in 1981. Perhaps an appropriate remedy for the applicant's past noncompliance with project conditions of approval would be the relinquishment of any corporate interest in the Indian Pass site and complete preservation of the Indian Pass location. A systematic disregard of the study, analysis and mitigation of adverse impacts to the Quechan Nation's sacred sites and landscapes, has occurred in Imperial County. Such systematic disregard of cumulative impacts is illegal. Neighbors of Cuddy Mountain and Idaho Sporting Congress, Inc. v. United States Forest Service (98 Daily Journal D.A.R. 2155)(Forest Service failed to provide a sufficient cumulative impacts analysis as to the combined effect of a number of proposed timber sales on old growth habitat depletion). This patterned disregard must now stop.

c. Nondisclosure of Highly Likely Future Mine Expansion "Piecemeals" the Proposed Project

042 Most mines seek expansions over the life of their project. In fact, Chemgold sought and received six expansions on its Picacho Mine project and claims the rights to 10,000 acres of land in Imperial County, most of which is near Indian Pass. A high probability of potential massive direct and indirect cumulative impacts exists here if Glamis Imperial were to request expansion of its mining operations to nearby paid-up claimed lands with the Indian Pass Road Valley. Three mines operating in proximity to the proposed Imperial project site have each sought, and been granted, expansions.[106] (DEIS/R 2, pp. 5-3 - 5-5). Expansion of the proposed Glamis Imperial site from the present 1,600 acres, would likely *encompass and directly* impact several of adjacent cultural sites, even more greatly impacting the Quechan religion and carving further into Quechan culture. Severe *indirect* impacts could result from future expansion activities as well, for example, if grading for the Indian Pass Road area, near the Running Man glyph, were expanded (DEIS/R 1, Cultural Technical Appendix, p. 75).[107] Many other mines on BLM lands are granted almost routine expansions. (*See attached,* sample of three Federal Register notices for other mines throughout the country). Future direct losses could include other portions of the nearby, remarkable, Indian Pass - Running Man area of traditional cultural use and other

---

106 BLM itself has recognized that, "[s]ignificance varies with the setting of the proposed action." (Overview of BLM, p. 37; *see also,* Lynne Sebastian, *Protecting Traditional Cultural Properties Through the Section 106 Process*, CRM Vol. 16, 1993 "For example, sand and gravel operations might be of little concern to a tribe if they are confined to arroyo bottoms but of great concern if they involve isolated buttes or other prominent landscape features. A tribe might decide that well pads for oil and gas drilling in a particular area would require no additional consultation provided that archaeological sites could be avoided. Prescribed burns may be of no concern in an area where there was no history of plant collecting but of great concern in an area where there was a long tradition of plant collection.")

Similarly, the three adjacent operating mines have histories and characteristics different from the Glamis site. The Indian Pass site enjoys a far more sensitive and undisturbed setting than the other local mines. First, the other three open-pit mine sites have had historic mining on them. (*See attached,* Chemgold, Inc. Picacho Mine History and DEIS/R 2, Appendix L, *cf.*, p. 60 with pp. 55-56). Second, the cultural resources there, while important, are not of the same significance and volume as those at issue with the Imperial Project. Finally, that the Quechan may not have actively reviewed and commented on these other projects, has no bearing on the validity of their opposition to the present project. The Quechan have nevertheless stated in the record that the area proposed for the latest Glamis project is in a more sensitive area having an even more rich material culture resources ("We have already sacrificed other areas but at least most of those were away from the important trails.")(Native American Consultation, p. 21).

107 Expansion of the Picacho Mine caused permanent changes in the view along segments of Picacho Road. (Chemgold Inc., Picacho Mine Dulcina Pit Phase 2 Expansion (SDEIR. pp. 1-7) June 1991).

ancillary areas. Yet, despite the frequency with which such mining expansions of existing operations are sought, no mention of this reasonably foreseeable impact is even mentioned in the DEIS/R.

3. Fragmentation of Remarkable, Existing Cultural District (Landscape) Cannot be Mitigated

043 BLM has stated that it is committed to "look[ing] at landscapes as a whole. . . [and] get[ting] more public and tribal involvement --- rethinking what we've done." (Doug Dodge, BLM management, 32nd SCA Annual Meeting, Round Table discussion comment). The Indian Pass-Running Man ATCC "clearly fits" the National Register definition of a district. (DEIS/R 2, Appendix L, p. 287). For evaluating archaeological districts under the National Register criteria, "integrity" is based upon the property's potential to yield specific data that address important research questions. Evaluation of integrity should focus primarily on the location, design, materials and perhaps workmanship. (OHP's *Forging a Future with a Past: Comprehensive Statewide Historic Preservation Plan for California*, December 1997, pp. 82). The material cultural resources at Indian Pass, including that area bounded by the Imperial Project's footprint, presently have great integrity; in fact, "[t]he integrity of the Indian Pass-Running Man ATCC in relationship to traditional belief systems is clear." (DEIS/R 2, Appendix L, p. 287). And, they constitute "a vital and uninterrupted cultural district" and destruction of any portion of this archaeological district "would destroy the essence of the whole. . . I believe that the proposed mining project would destroy a vital and uninterrupted cultural district, and that any mitigation plan other than preservation could not consciously be adopted." (Jay von Werlhoff, Imperial Valley College Professor of Archaeology (retired), August, 21 1997, correspondence).

This comports with what the DEIS/R 2 calls a "larger cultural landscape." (DEIS/R 2, Appendix L, ES-1) and what the Quechan value as an expression of "continuity," a link between the sites (Personal Communication, Lorey Cachora. February 25, 1998.) Some look upon the concept of a "district" as a "landscape" where the trail systems form a "spider web" of life, where the sacred sites are nodes along the web and the web does not exist without the spaces between the nodes --- nor do the nodes exist without the linkages between them. (Personal Communication, David Carmichael, Ph.D., Anthropology Department at the University of Texas at El Paso, April 1998). To deny the Quechan the use of the elements that comprise the continuity of the site, would be akin to asking a Roman Catholic to remove one station of the cross and say that the pilgrimage is the same without it. For the Quechan, the project area contains one of the four "teaching areas." In fact, the project site contains the first teaching area, without it, it will be impossible for untrained future generations to be initiated into the Quechan religion: "[i]f they could not come here to learn first, they would not be able to learn the lessons of the succeeding three locations." (DEIS/R 2, Appendix L, p. 309). This sacred site, therefore, is part of the living tradition of the Quechan Nation. Precisely the type of area Executive Order 13007 was enacted to protect. The applicant and BLM were notified of this concern as early as the scoping process at the beginning of 1997. (DEIS/R 2 "Introduction," p. 1-9 "Summary of Issues Identified in Scoping Comment Letters").

The archaeological district may include an area a mile beyond the Indian Pass Road and the proposed mine, with a major geoglyph, a female rock alignment in basalt and quartz, two extensive petroglyph fields, and trail systems that lead from Yuma to Newberry Mountain (near Laughlin) with other significant intersecting trails. Arizona State University has dated portions of this district to over 1,400 years ago. (Jay von Werlhoff, Imperial Valley College Professor of Archaeology (retired), March 21, 1997 correspondence).[108] The integrity of the site is essential: "[I]n reviewing the overall

[108] Nearly 500 sensitive/significant cultural resource areas (locations varying in size from 0.5 square mile to 94 square miles) were identified during the California Desert Conservation Area Plan planning process. (California Desert Conservation Area Plan, Chapter 3, Cultural Resource Element, BLM 1980, p. 22). Prehistoric-Historic

computerized map of cultural resources, it is clear that the distribution of the numerous religious and other archaeological features that are protected under federal law *could not be mitigated* through avoidance in an earth disturbance project of the magnitude of the mining company plans." (Jay von Werlhoff, Imperial Valley College Professor of Archaeology (retired), August 21, 1997, correspondence to BLM (emphasis added)). Moreover, placing sufficiently large amount of land into the ACEC is critical: "if [ACECs] are not sufficiently extensive to include *networks of sites*, they will not be suited for the kind of archaeological preserves that are needed in the California Desert." (BLM Impacts: Damage to Cultural Resources in the California Desert 1980, p. 144)(emphasis added).

A concentration, linkage or continuity of such sites or objects, or of structures comprising a culturally significant entity may be classified as a "district." (National Register Bulletin 38 (1992) p. 9). This concept of a "cultural district" is also visually explained in the *attached rendering* of the "Black Point Creation Ceremonial Pathway" on the lower Colorado River. The destructive impact of a single modern bulldozer road through the center of the district illustrates the concept of destruction of the "essence of the whole." Moreover, even if some of the sites avoid direct impacts, the connections between the artifacts may be forever wrecked. The entire sacred geography is greater than any one site yet the functionality of the whole depends on more than any one item. The applicant even recognizes as much, "Right over that hill is where 'running man' is. I know there is some concern [the mine] will affect the views. . .It (one of the piles) would be to the right of the pass and below the horizon. **I can't say you will be standing here and not notice anything different.**" *See attached,* March 23, 1997 Imperial Valley Press "Clash of Visions" (emphasis added).

Perhaps this is what was at the heart of the League for Protection of Oakland's Architectural and Historic Resources v. City of Oakland (1997) 52 Cal.App.4th 896, *cert. denied.* That court held that the "business as usual" mitigation of historic sites may no longer be considered adequate and appropriate mitigation and that the artifacts themselves must be maintained, not just the excavation plan, research design, documentation and commemorative plaques, etc. The case makes clear that impacts on historic resources, and by analogy archaeological resources, can probably not be mitigated by anything less than full or substantial preservation of the original structure or artifact. There are many benefits to *in situ* preservation:

> In situ preservation of a site is the preferred manner of avoiding damage to archaeological resources. Preserving the site is more important than preserving the artifacts alone because the relationship of the artifacts to each other in the site provides valuable information that can be lost whenever the artifacts are removed. . . Preservation may also avoid conflict with religious and cultural values of groups associate with the site." (CEQA Guidelines Appendix K)(emphasis added)
>
> Preservation [of archaeological resources in place] has the additional benefit of providing compatibility with continuing cultural uses of the archaeological site by descendants of those who lived there, providing science with contextual data related to the site. *in situ* encourages a more interdisciplinary approach, and creates opportunities for on-site public education and interpretation."

Resource Areas include all archaeological values in small areas and the associated environments related to past human use and occupation. (Id. at 23). These areas, by definition, can serve as discrete sacred areas as defined by the Executive Order.

(OHP Report, December 1997, 1995 Preservation Task Force Sub-Committee on Archaeology Report of Findings, p. 72)(emphasis added)

Although archaeological sites are often determined to be eligible for the State or National Registers because they contain important information, it does not necessarily follow that data recovery is an appropriate mitigation measure. Some sites contain values that cannot be realized through current data recovery methods. Other sites may be imbued with sacred or other cultural or public values that cannot adequately be mitigated through data recovery. Sites such as these should be preserved where feasible. (OHP Report, December 1997, 1995 Preservation Task Force Sub-Committee on Archaeology Report of Findings, p. 73)(emphasis added)

Similarly, here, there is no way to mitigate the loss of sections of an ancient trail or to mitigate the loss of integrity of this unique cultural district.[109] From an interpretive standpoint, offsite re-creation of segments of the ancient trail will be meaningless because one cannot experience or view how the trail is a direct link to Indian Pass, and the Colorado River. *In situ* preservation is particularly appropriate for sites such as this characterized as "fragile pattern sites." The Indian Pass site has such remarkable integrity that is can greatly contribute to interpretation. Current Quechan tribal members have voiced concern that anything short of *in situ* preservation of the cultural district will permanently thwart their continuing cultural use of the site. Finally, the DEIS/R 2 explains that present technical methods are unable to "unlock" the mysteries of desert varnish formation and other unique aspects of this area. This site contains values that cannot be realized through current data recovery methods. District preservation must occur.

4. Action on this DEIS/R is Premature as Significance Testing is Admittedly Incomplete

044 Local archaeological field experts like Jay von Werloff have stated that the site contains the most important archaeological resources in Imperial County, demonstrates an unbroken record of utilization for over 10,000 years and that research queries would need over twenty years of man time to complete work.[110] Implicit in this statement is that significance testing and inventory is incomplete as this time. That significance testing is incomplete, is reflected in the DEIS/R 2 itself. At numerous places, the document specifically calls out additional research issues and questions relating to the site's significance to Quechan cultural practice and archaeological understanding. (See, DEIS/R 2, p. 4-85; and Appendix L, at pp. 31, 43, 44, 45, 48, 66-67, 80, 85, 86, 88, 89, 97, 103, 106, 108, 117, 126, 262-263, 268, 280, 293-294, 298, 301, 303). These resources only have meaning as long as they remain in place. Some items, such as the ancient trails, simply cannot be moved.[111] Prehistoric sites proposed to be impacted

[109] "Specifically, the cumulative effects of these projects on highly sensitive, sacred, or scientifically valuable resources such as sacred mountains, trails, rock art, major habitation sites, cremation and burial area, and geoglyphs have been adverse when taken together, even if impacts to specific individual projects were mitigated at a project-specific level . . . Archaeological recordation of such features is rarely adequate to document their loss, and archaeological methods have not been developed that adequately place many of these types of cultural features in a cultural context that permits their informational and historic values to be recovered." (DEIS/R 2, pp. 5-16 - 5-17).

[110] Further, von Werlhoff has stated that "there is much work to be done . . . very deserving of at least a Master's thesis." (von Werlhoff communication, March 8, 1998).

[111] The DEIS/R 1 noted that the linkages of the Indian Pass trail network to long-distance routes has "not been fully examined." (DEIS/R 1, Cultural Technical Appendix, p. 76). That comprehensive trail inventories would likely add to the significance determinations of the area is also noted. (DEIS/R 2, Appendix L, p. 299).

include: trail segments, trail shrines, shaman's hearths, pot drops, cleared circles, rock rings, geoglyphs, lithic scatters and a milling slick. (DEIS/R 2, ES-1 - ES-2).

Moreover, it is unclear what percentage of significance testing was done. The DEIS/R 2 claims that the site was "entirely resurveyed" and eight transect surveys were conducted. (DEIS/R 2, p. 3-85). Yet, the document is silent as to whether the percent of testing and recovery adequately "exhausted" the scientific potential of the site. Archaeologists have demonstrated incontrovertible evidence of "significant new information on chronology and artifacts" with recoveries up to 38% of the sampling universe (site).[112] Also, onsite trail shrines may contain subsurface components or trail offerings. (DEIS/R 1, Cultural Technical Appendix, p. 63) Yet, it is unclear, whether any subsurface testing was done. Experience has shown many veteran field archaeologists that erosion, slope wash deposits, and alluvial fans can contain and expose now buried sites and that after thousands of years hearths, for example, can be buried deep underground. (Phil de Barros, Chair Native American Programs Committee, Society for California Archaeology, SCA 32nd Annual Meeting presentation).[113]

Subsurface testing may assist in adding to the significance of the area because natural forces, like erosion, may mask many features.[114] Moreover, whether such testing would be deemed appropriate by Native American observers is also unknown. Oftentimes, academic, agency and contract archaeologists studies are deficient in the following areas: background research; pre-field work plans or research designs; field survey coverage; site resource recording; criteria or application of criteria for evaluation; treatment; and reporting. (OHP Report, December 1997, 1995 Preservation Task Force Sub-Committee on Archaeology Report of Findings, p. 50) My client concurs that if this is to become a "salvage archaeology" situation (which , incidentally, my client would certainly continue to protest), much important work still needs to be done.

Finally, the proffered mitigation does not presently include curation at a federally-qualified curation facility. Meaningful curation is regarded as vital in the OHP Report, December 1997, 1995 Preservation Task Force Sub-Committee on Archaeology Report of Findings, pp. 68-71. At least one such repository, The San Diego Archaeological Center, Inc. ("SDAC"), has been established in the San Diego region. If the Quechan were to curate any site collections, SDAC could assist the tribe with technical expertise in meeting the federal standards enumerated in 36 CFR 79. The expenses for NAGPRA review, any revitalization of test collections, processing and curation must be borne by the

---

[112] *See attached,* Ron. V. May, expert letter on archaeological sites for the 125 Project near Sweetwater in San Diego County, December 1, 1997.

[113] Matt C. Hall, University of California Riverside, related the "Eleven Flake Story." Regarding a survey in the Mojave, he found a location with an eleven flake (surface) lithic scatter; he did a modest subsurface test in the middle of the flakes and came upon a scraper, 1,000 flakes and other artifacts. This desert area then went from an area underrepresented by features to "one of the most abundant sites." (Hall, presentation on "Survey Sampling and Site Significance Issues in California Desert Archaeology," SCA 32nd Annual Meeting). Hall's point is that lack of an aggressive sampling approach may likely mean that one will miss important segments of the prehistoric record. He is now, perhaps with some sarcasm, "hesitant to approve [a survey's conclusions] on the surface record alone --- unless [the study area] is on bedrock." Id.

[114] Because much of the surveyed area in Imperial County is characterized by unconsolidated sediments, sites are frequently affected by erosion. (BLM Impacts: Damage to Cultural Resources in the California Desert 1980, p. 23). BLM recognizes at least twelve variables affecting erosion and deposition: time, initial relief, geology, climate, vegetation, relief, hydrology, drainage network morphology, hillslope morphology, hydrology II, channel and valley morphology and depositional system morphology and sediment characteristics. (Id. p. 65).

applicant - not taxpayers. Payment of these costs, which can generally range from $300.00 to $1000.00 "per box," must be guaranteed by the applicant, to truly achieve "enforceable" and complete mitigation for objective cultural resources under CEQA. (PRC Section 21081.6(b)).

Yet, even if great efforts were made to backfill, revegetate, recontour and restore the entire site to standards acceptable to those of European ancestry, the very act of ore extraction and associated mining activities would forever mar the sanctity of the site and its cultural significance to the Quechans. This impact is admittedly significant and unmitigable. Despite persistent, successive attempts to back the Quechans into a corner to discuss and accept mitigation, the Tribe has held true. It is our understanding that, from their perspective, the only acceptable alternative is complete avoidance by selecting the No Action alternative and withdrawal of the lands from mining claims. (Native American Consultation, p. 19).

III. The DEIS/R Process is Fatally Flawed and Raises Several CEQA and NEPA Procedural Concerns.

045 Each of the arguments in this letter is timely raised. The CEQA/NEPA process is precisely the point to raise religious freedom and property interest considerations. Lyng and cases applying it, suggest that the enforcement of procedural rights to require agencies to consider impacts on traditional religions will have to be asserted under NEPA or other land management or planning statues. (Protection of the Ancient & Sacred: Historic & Cultural Resources and Indian Religious Freedom Management Affecting Indian Lands Development Walter E. Stern, ABA Section of Natural Resources, Energy, and Environmental Law, February 1994, pp. 28-29). It is further noted that substantive protection of Native American religious uses of tribal *and public lands* exists under the Free Exercise Clause of the First Amendment and that the *early identification* and consideration of these potentially significant sites is imperative. Id. Thus, the actions of my client, by raising these issues at this time, fall squarely within established practices.

A. Bad Faith Use of 425 Comment Letters as "Scoping Letters"

046 The proposed project has had many incarnations. The processing of the Indian Rose project, transformed into Chemgold's Imperial Project, is now known as the applicant Glamis Imperial Corp.'s Imperial Project, and has been typified by meaningless public hearings, voodoo risk assessment and slick legal maneuvering. No where is this more apparent than in BLM's failure to prepare written responses to comment to the first duly circulated DEIS/R.[115] Instead the applicant wants to treat all 425 letters as "scoping comments" for the "second draft." (DEIS/R 2, pp. 1-6; 7-2).

Failure to provide written responses to comment on the 425 letters of comment timely received on that DEIS/R, circumvents the letter and spirit of CEQA, NEPA and signed MOUs. (40 CFR 1503.4; 40 CFR 1505.1 (c) and (d); FEIS and CDCA Plan, Appendix Volume D, Appendix VIII: Native American Part 1, "MOU pertaining to BLM CDCA Policy for Coordinating Native American Reservation Tribal Review of Environmental Impact Documentation" p. 86 ("The BLM agrees that: [t]he agencies' replies to tribal comments will specifically address both issues of material impacts and impacts identified by Native American respondents which may adversely affect religious and heritage values)(emphasis added)). According to BLM, "[t]he importance of involving the public cannot be

[115] Moreover, the new DEIS/R is silent on what specific significant changes, if any, to the project have been made between the first and second drafts. Table 1-3 "Principal Revisions to the Proposed Action including Reclamation Plan" (DEIS/R 2, p. 1-11) itemizes 25 purported changes, most of which are insignificant or meaningless in terms of impacts to cultural remains and sacred sites analyses.

overstated. The request for and correct use of public input and comments are essential to achieving public scrutiny during the NEPA process. (BLM Overview, p. 41)(emphasis added); BLM's tactic also appears to violate BLM guidance stating that a "supplemental DEIS" (not a "second draft") must be prepared where the agency makes substantial changes in the proposed actions that are relevant o environmental actions or significant new circumstances or information related to environmental concerns exists. (BLM Overview, pp. 20-21). This transparent, deliberate avoidance of preparing written responses to comment used a procedure not codified in CEQA or internal agency procedure.

Nor does it appear the letters of comment on the first DEIS/R will be readily available to other members of the public for review. This appears to violate NEPA and the typical environmental review in Imperial County. For example, in the recently (12.08.97) released DEIS/R for the White Pit sand and gravel mine in Imperial County, "scoping" letters, including those dating back as far as 1994, were printed in the technical appendix and distributed for the public to review. The customary practice that has worked in the past in Imperial County and the rest of California, is not continued by this project. BLM's current interpretation on the first set of comment letters cannot stand, and such nondisclosure renders the entire environmental review process suspect.

Further tainting the environmental review process is the apparent undue influence of Glamis Imperial. BLM itself recognizes that one of the "primary disadvantages" of environmental contractors is that the "[project] [p]roponent may influence the contractor." (BLM Overview, p. 24). This influence is flatly acknowledged in the DEIS/R 2, "In addition to personnel working directly on the Project, a variety of people provided information and support to the effort and deserve recognition. Steve Baumann of Glamis Imperial provided the funding that made this inventory and evaluation effort possible. Mr. Baumann should be acknowledged for providing the means to document an important part of Quechan history being slowly degraded by collectors and time." (DEIS/R 2, Appendix L, p. 14). This patronage recognition fails to mention the cumulative destruction wrought by mining projects, including Glamis Imperial's previous project at Picacho. (*See, infra*, cumulative impacts discussion, Picacho Mine). Further, the DEIS/R 2 Cultural Technical Appendix is replete with references to "our" project --- not "the" project. The insertion of the word "our" into the technical text, may indicate that the document contains opinion, not fact, and/or that the applicant or his agents rewrote portions of the draft document itself. Because of this bias, the environmental review process for this project has been tragically corrupted.

047 **B. Participation in CEQA & NEPA Do Not Guarantee Project Approval**

The CEQA and NEPA processes are both designed to elicit from, and disclose to, the public and decision makers information about a proposed project. (40 CFR 1502.1). Neither statute "guarantees" an applicant that his or her project ultimately will be approved and that at the tailpipe of the process will be project approval. (40 CFR 1502.2 (f); 1506.1). In fact, it is completely predictable and legal that copious information is presently coming out into the public domain about the proposed project's impacts and its lack of viability. This shows the system works. For Glamis to plead any type of reliance interest at this point in the process is laughable. It is well known that federal tribal land managers and developers alike should undertake cultural resource management compliance obligations as early as possible in the planning process because, "Failure to do so can result in delay and waste." (Protection of the Ancient & Sacred: Historic & Cultural Resources and Indian Religious Freedom Management Affecting Indian Lands Development Walter E. Stern. ABA Section of Natural Resources, Energy and Environmental Law, February 1994, pp. 28-29). An applicant should not be able to benefit from his own chicanery. Just because the inadequacy of the first DEIS/R was "caught," the applicant cannot later claim he was

wronged by his own failed tactic.[116] Glamis should have used better business judgment, and BLM better political judgment.

Ironically, Steve Baumann, Vice President & General Manager of the Glamis Imperial Corporation, in correspondence to Pat Shea, Director of BLM, tries to hide behind the same environmental process he has defiled,

> The process for reviewing and commenting on an EIS is quite straight forward. We are all provided the opportunity to comment on the merits of the draft. Those comments are then incorporated into a Final EIS. This process is designed so that decision makers can effectively do their jobs. I am sure you agree that the process that has worked well in the past, should be allowed to continue on this project.

Yet, later through its lawyers, the applicant still complains that its project has not been given enough preferential treatment. The applicant does not respect the process. It wrongly believes that the approximately 400 page cultural resources technical portion of the second DEIS/R and any extensions of time to accommodate environmental review of their project are "unwarranted, unnecessary and overkill." The fact is that the second DEIS/R was necessary because the first DEIS/R, more particularly the cultural resources section, was wholly inadequate. Not one cultural resources professional disputes this. (See John Hildebrand February 13, 1997 letter; several Jay von Werloff letters; Royce Riggan letter; Yuma Archaeological Society letter; and Stacy Vellas' testimony at the February 1998 Quechan hearing). A comparison of the cultural resource sections of the two drafts demonstrates the vast differences between the volume and significance of the resources present between the two environmental disclosure documents. Several experts recognize the business judgment of doing it right the first time.[117] Nothing extraordinary is being asked of this applicant. Oregon Natural Resources Council v. Marsh 832 F.2d 1489, 1494 (1987) (federal agencies have continuing duty to gather and evaluate new information relevant to environmental impact after release of its environmental impact statement).

The applicant's business philosophy may have worked at other sites, comprised of a different array of environmental significance, but it has not worked here. Sadly, the project applicant manifests his frustration, through its increasing disdain for the democratic environmental review process itself and the Quechan Nation by insensitively stating that,

---

[116] This tactic, however, is not uncommon. For example, Suagge cites Mount Graham as an example of where the Forest Service, a federal agency like BLM, failed to make a good faith effort to learn about the historic, cultural and religious significance of an area affected by the telescope project, by failing to even conduct a literature search which could have been done at a building across campus. (Dean B. Suagge Tribal Voices in Historic Preservation: Cross Cultural Bridges & Partnerships, Sacred Landscapes & Common Ground Sovereignty Symposium IX, Tulsa, Oklahoma, June 1996, pages 95 (fn. 17), 109 (fns. 82, 83)).

[117] "Given the potential for delays that might arise later in project development, one should consider whether an exhaustive on-the-ground survey makes sense at the outset. *The additional expense may save time and money in the long run, and will buy some piece of mind.*" /Protection of the Ancient & Sacred: Historic & Cultural Resources and Indian Religious Freedom Management Affecting Indian Lands Development Walter E. Stern. ABA Section of Natural Resources, Energy and Environmental Law, February 1994, pages 28-29) (emphasis added); Effects of Historic and Cultural Resources and Indian Religious Freedom on Public Lands Development: A Practical Primer Walter E. Stern and Lynn H. Slade, Natural Resources Journal, Winter 1995, Vol. 35 page 143, footnote 65 ("[t]he permit applicant must anticipate the time commitments and planning associated with [National Historic Preservation Act] compliance. . . Moreover, . . . the permitee likely will foot the bill for NHPA compliance.")).

> All of these revisions could have been implemented as mitigation/alternative measures in response to comments on the first Draft, and the requirement of an additional Draft (at considerable expense for Glamis) was, in our opinion, unnecessary and overkill. . . nor that the EIS/EIR be of such perfection as to rival the Holy Grail.[118]

The vast difference between the previous and currently recorded cultural resources in the APE is summarized at Table 5-12. (DEIS/R 2, Appendix L, pp. 257-258). The last cultural survey found over *three times as many* cultural resources than previous surveys, and several known, immediately off-site, features remain unrecorded. This "dramatic difference in results" can be seen in almost every feature category and "surely affects archaeological interpretation." (Id. and at p. 259).[119] We trust that our comment letter, among others, has shown that additional relevant information does in fact come out of the public review process under CEQA and NEPA, and quite frankly, shows that the process works and allows an informed decision to be made. The Imperial Project is proposed for public lands. The public must be afforded the greatest latitude in commenting on the use of its land.

C. Late and Incomplete Consultation

048 At the heart of the proposed project site, are brave members of the Quechan Nation. These members have educated the public and commented on the record despite the Native American traditional reluctance to discuss sensitive religious matters, especially with Anglo-Europeans, and despite their general unfamiliarity with the formal environmental review process. This "forced" participation in the process, though necessary to timely "get on the record," has been an affront to the privacy of their religion. (Native American Consultation, p. 20).[120] This affront is particularly strong as the Quechan's

[118] *See attached.* February 27, 1998, correspondence from Attorney James E. Good to BLM. The allusion to the "Holy Grail" during review of a project poised to imperil the Quechan sacred sites and geography is highly inappropriate and is designed to be inflammatory and disrespectful. Other examples of religious disrespect are laced throughout the DEIS/R 1, where the Running Man geoglyph is referred to as a "fabrication" and its creator a "fabricator." (*Cf.*, description in DEIS/R 2: "the Running Man site . . . in particular demonstrates continuity of Native American ground art style from the prehistoric period through the recent past." (DEIS/R 2, Appendix L, p. 297).

[119] Yet, those categories more reflective of ceremonial use seem particularly underrepresented in the previous surveys. For example, prayer circles, shaman's hearths, spirit breaks, vision quest and quartz smash features were virtually unrecorded in the previously recorded resources for the mine and process area, yet over 40 such features are now recorded in the mine area. (DEIS/R 2, Appendix L, pp. 258-259). In fact, "[t[he Project area contains numerous archaeological manifestations of behavior that was primarily religious or symbolic in nature." (Id. at 268). This array of resources has greatly affected the research design between the two draft EIS/Rs for the proposed project.

[120] Sacred and secret are often two sides of the same coin. Robert S. Michaelsen (1985) American Indian Religious Freedom Litigation: Promise and Perils. *Journal of Law and Religion*, 3(1): 47-76, at 48, 70 (Michaelsen relates that one of the attorneys in the Wilson line of cases told him in confidence that in his opinion Hopi secrecy about sacred shrines in the San Francisco Peaks area may have undermined the efforts of the Hopi Indian Tribe and the Navajo Medicine Men's Association to prevent the expansion of the ski resort). Unquestionably, disclosure carries with it the threat and risk of desecration. As explained by Lorey Cachora:

> It is important to keep a lot of information to one's self, or to share it only with certain individuals. That is why I sometimes ask you to turn off the recorder when we are talking, and to keep certain things to yourself. I don't even tell my own people a lot of things. Sometimes I suspect that people criticize me, including those from other tribes, for sharing information. But

traditions are oral and involve oral histories.[121] Many Quechan are uncomfortable with writing or typing their stories. To hold the tribe to a written comment exhaustion of administrative remedies is contrary to their thinking and has posed an undeniable hardship. (Id., at p. 33).[122] Moreover, the thinly veiled attempt to manipulate the statements of tribal members during site visits and consultations is threaded throughout the text of the DEIS/R 2.

To better ensure full consultation, BLM must rectify these inadequacies and follow the CEQ guidelines which recommend that hearing locations be local, convenient, and accessible; meeting sizes and formats be tailored to the community or population and scheduled to avoid conflict with work schedules and community social events; consider the literacy level of the audience, use layman's language, and provide opportunities for participation other than written such as personal interviews or audio/video recording; and remember that people will not participate if they feel they are being asked to do so in an inappropriate or offensive manner. (General Services Administration Fact Sheet "Environmental Justice and NEPA" February 1998, pp. 5,7).

Though pleased that BLM has finally consulted with the Quechan Cultural Committee, this last consultation occurred on December 16, 1997, about one month after the most recent DEIS/R was released for public review. *(See attached,* February 13, 1998 letter from Pat Shea, BLM Director to Senator Barbara Boxer). Thus, despite that the environmental document claims that the Native American Consultation report is a "complete report" (DEIS/R 2, Appendix L, p. 130), commentors will not have the benefit of the information arising from that consultation when they engage in public comment. Furthermore, Appendices A, B and C, containing admittedly important correspondence from the Tribe (supposed to be included, in the words of the DEIS/R 2: "to facilitate a comprehensive review of Native American concerns") and transcripts of Tribal testimony at hearings is referenced, but mistakenly omitted, in the circulated DEIS/R 2 text itself. (Native American Consultation, p. 30-31).

Finally, several other tribes were not notified of the project by the BLM nor invited to meaningfully consult.[123] As early as the 1997 consultations, the applicant's agents were put on notice that

---

sometimes it is important to do this, especially if it will protect our culture. (DEIS/R 2, Appendix L, p. 119).

[121] Only certain Quechan men know the songs of White Cloud, for example, and are usually reluctant to sing them to outsiders. One such man is known to have allowed an outsider to record two songs. This caused him so much worry that he could not rest or sleep for awhile. (Elmer M. Savilla, Along the Trail: A Story of "One Little Indian" 1996, page 24).

[122] *See also,* Robert S. Michaelsen (1985) American Indian Religious Freedom Litigation: Promise and Perils. *Journal of Law and Religion,* 3(1): 47-76, at 58 ("To these [litigation] challenges is added what may be the biggest challenge of all for Indian litigants - that of dealing with a system in which written word carries much more authority than the spoken work and, as Judge R. Neely of the West Virginia Supreme Court of Appeals puts it, 'real life is meaninglessly abstracted into legal principles . . .'"). Robert McConnell of the Yuroks observed that, "With all the acronyms and laws it is a daunting task for Native American peoples to take control of their own resources. But we must do it." (SCA 32nd Annual Meeting, Native American Cultural Resources Workshop comment). Similarly, Lorey Cachora has noted that by their close involvement in some projects, the Native Americans are not trying to hurt or attack the agencies or CRM firms, but rather, that the tribes must have the courage to fight and advance legal values. (Lorey Cachora, SCA 32nd Annual Meeting, Native American Cultural Resources Workshop comment).

[123] According to Executive Order No. 13007 "Indian Sacred Sites," Section 2, BLM should have promptly implemented procedures to ensure reasonable notice is provided of proposed actions or land management policies that may restrict future access to or ceremonial use of, or adversely affect the physical integrity of, sacred sites.

the cultural resources in the Quechan traditional community are important not just to the Quechan Nation, but to all Yuman peoples with whom the Quechan share a common creation. (Native American Consultation, pp. 18-19). Accordingly, the Cultural Committee said that the Fort Mojave Indian Tribe, the Colorado River Indian Tribes, Hualapai, Yavapai-Prescott, Havasupai, Chemehuevi, Salt River Pima-Maricopa, Tohona O'Odham, Kumeyaay, and Cocopah should be contacted. (Id. at p. 24). Tribes and groups with historic ties to the land in question, including those that are no longer locally resident, should be given the same opportunities as resident tribes and groups to identify their selected contact persons and their interests in the public lands. (BLM Manual, III-B, p. 11; Lorey Cachora, SCA 32nd Annual Meeting, Native American Cultural Resources Workshop comment ("these artifacts belong to the Colorado River people.")). Yet, the applicant's consultation consultant admits that he did not personally phone or meet with other affected tribes thereby conceding that the applicant failed to meaningfully consult with tribes other than the Quechan. (Michael Baksh, Ph.D., CRM presentation at Palomar College's American Indian Science & Engineering Society's conference, March 27, 1998)

This lack of timely, meaningful consultation with other Colorado River Tribes appears to violate stipulation 1(b) of the "Memorandum of Agreement Pertaining to Bureau of Land Management California Desert Conservation Area Policy for Coordinating Native American Reservation Tribal Review of Environmental Impact Documentation," at FEIS and CDCA Plan, Appendix Volume D, Appendix VIII: Native American, Part 1, BLM September 1980, page 86. That stipulation states that, "[EISs] will be distributed for purposes of review to *all Tribal groups . . which traditionally occupied and utilized an area of potential impact* or where reservation lands could be affected." (italics added). Moreover, this appears to violate the BLM Manual at III-9 and 2 (while *notification* can be satisfied through simple one-way written means, *consultation* is generally construed to mean direct, two-way communication; a tribal council's or Native American organization's failure to respond to an inquiry letter cannot be assumed to indicate that the group is not concerned or does not have information relevant to the action being proposed).[124]

D. The Defense of Laches Will Not Apply to this Project

049 Statistically, Native Americans infrequently file NEPA suits; moreover, BLM has not, historically, frequently been sued. (Ronald E. Bass & Albert I Herson *Mastering NEPA: A Step-by-Step Approach*, Solano Press Books, 1993 ed., pp. 96, 98.) Oftentimes, when Native Americans *do* decide to file suit, they have found themselves "locked out" of effective litigation because they failed to timely raise concerns or submit expert opinion during the environmental review process. (Dean B. Suagee Tribal Voices in Historic Preservation: Cross Cultural Bridges & Partnerships, Sacred Landscapes & Common Ground Sovereignty Symposium IX, Tulsa, Oklahoma, June 1996, pages 95 (fn. 17), 109 (fns. 82, 83); Temecula Band of Luiseno Mission Indians v. Rancho Cal. Water District (1996) 43 Cal.App.4th 425, 430 fn. 3). This is because, for several reasons, the time frames for administrative participation are often incompatible with the time frames of the tribe. (Andrew Othole and Roger Anyon, *A Tribal Perspective on Traditional Cultural Property Consultation*, CRM Vol. 16, 1993 (Special Edition)). This will not be the case here, regarding the Quechan tribe.

---

[124] Sadly, this omission is not uncommon. "Native Americans and other cultural descendants of archaeological resources are often not adequately consulted or involved during archaeological resource inventories, evaluations, and management. This results in disenfranchisement of those descendants from their ancestral heritage, poor and sometimes hostile relations with these potential advocates for archaeological preservation, and diminished capacity for ethnographic and archaeological research." (OHP Report, December 1997, 1995 Preservation Task Force Sub-Committee on Archaeology Report of Findings, pp. 49-50).

For example, unlike in Apache Survival Coalition v. United States 21 F.3d 895 (9th Cir. 1994), the defense of laches will not apply to the Quechans' participation in the proposed project. Numerous interested parties, including the Quechan Nation, have stated clearly in the record of environmental review, that the entirety of the area has value sacred to practitioners of this traditional Yuman religion. (*cf.* Apache Survival Coalition v. United States 21 F.3d 895 (9th Cir. 1994) (Coalition's argument that the entirety of Mt. Graham, not just the specific "shrines" the Forest Service identified in its EIS is sacred and that the presence of astronomical telescopes desecrates its peaks, was barred by laches); Havasupai Tribe v. Robertson (9th Cir. 1991) 943 F.2d 32 (court held Indian Tribe had some obligation to raise during comment process claim that, in approving development of uranium mine, government gave inadequate consideration of effects of mining on ground water)). The Quechans, and others, unlike the Apaches and the Havasupai Tribe, are engaged in the environmental process early enough to establish a timely, meaningful record. And more is yet to come. Yet, curiously, the Quechan Tribe has been advised by upper-level BLM management that the Tribe does not need to meet comment deadlines. Such "advice" is unsound and appears in bad faith, particularly in light of the previous cases where tribes were found to have protested projects, or aspects of the projects, too late.

IV. Conclusion.

050 Thomas Jefferson stated, "The strength and dignity of a nation are determined by how it cares for its resources." Yet, Jefferson also wrote of the remaining Native Americans in America that the government was obligated "now to pursue them to extermination or drive them to new seats beyond our reach."[125] The Bill of Rights, with its opening guarantee of religious freedom, was ratified in 1791. Yet that freedom has consistently been denied to Native Americans for several hundred years after that. And the practice of Indian religion is still more hampered and threatened than is the practice of any other traditional religion in this country.[126] Fortunately, however, more and more, our maturing nation celebrates its human diversity and cultural pluralism as an invaluable "resource." This maturation is directly reflected in the increased recognition of the value of Native American sacred sites.

My client is not asking that BLM, Glamis Imperial or any other of the potential Real Parties or Respondents hold the same values as the Quechan and other tribes along the Colorado River. However, my client is asking that the right of these peoples to safely hold and securely practice their spiritual and religious values be respected by the federal, state and local governments of our nation. The Quechan Nation, and the U.S. Nation, deserve no less. The free exercise of religion is a cardinal right of all Americans. Any abridgment of that right is a threat to the common well-being; and advancement of religious freedom enhances that well-being. This observation is especially appropriate in the case of Native Americans like the Quechan, whose traditions are pervaded by religion and whose treatment is an especially significant indicator of the well-being of the commonwealth.[127]

---

[125] Quoted in Ronald T. Takaki, Iron Cages: Race and Culture in 19th Century America (NY: Alfred A. Knopf 1979) p. 103.

[126] Robert S. Michaelsen (1985) American Indian Religious Freedom Litigation: Promise and Perils. *Journal of Law and Religion*, 3(1): 47-76, at 50. (*See also attached,* "Property Rights" cartoon from the February 16, 1998 High Country News).

[127] "Like the miner's canary, the Indian marks the shifts from fresh air to poison gas in our political atmosphere; and our treatment of Indians, even more than out treatment of other minorities, reflects the rise and fall of our democratic faith . . ." Felix S. Cohen, quoted in F. Cohen, Handbook of Federal Indian Law at v (1982).

My client looks forward to participating at each of the following stages of the proposed project, should other than the No Action Alternative be chosen. When the No Action alternative is chosen, my client suggests, subject to Quechan and other appropriate Native American review and approval, that the entire site be afforded very high protection. Such mechanisms may include: Presidential declaration of a national monument pursuant to 16 U.S.C. Section 431, nomination of the district to the National Register of Historic Places,[128] inclusion in BLM planning and protection as an Area of Critical Environmental Concern,[129] combined with withdrawal of this land from mineral entry, to advance the specific purpose of protecting important Native American cultural resources and sacred sites and designate the site as a National Historic Landmark.

My client also strongly believes that BLM should sponsor additional studies, if needed, to determine the evidence for such nominations. After all, priorities for implementation of the BLM's California Desert Conservation Area Plan's Native American Element are to be directed toward the protection of "the most critical and threatened resources of Native American value." A leadership posture for the federal government in cultural resource protection was made policy by Executive Order 11593 ("Protection and Enhancement of the Cultural Environment" May 13, 1971).[130] Effective implementation is long overdue. Certainly "the place where the trails cross" deserves this heightened protection.

(signature line and cc's on following page)

---

[128] The DEIS/R itself notes that the vast majority of the known sites within and ancillary to the Project site, have been evaluated as eligible for nomination to the National Register under several criteria including A, B, and/or C. (DEIS/R 2, Appendix L, ES-1; DEIS/R 2, 3-88 - 3-90 "Summary of Cultural Resources Identified within the Area of the Proposed Action.").

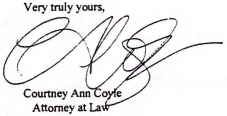
[129] ACEC expansion should be discussed in the alternatives section of the next iteration of this project, should the project move forward. BLM can create a new ACEC or expand the nearby Indian Pass ACEC, which was specifically designated to protect cultural resources. (DEIS/R 2, p. 3-84). Local ACEC expansions by BLM are not uncommon. (*See attached*, Federal Register notice, April 2, 1998)(BLM El Centro Office proposing amendment to 1980 CDCA Plan to expand ACEC boundaries to match the Management Area boundaries to better protect the Flat-tailed Horned Lizard).

Another example, on the western side of Imperial County, is where 40,622 acres were designated in the Yuha Basin ACEC for prehistoric, historic and wildlife values. That ACEC was later expanded to 64,000 acres. This Indian Pass area would also appear to fit the criteria for inclusion in a Group 2 "Cultural Area of Critical Environmental Concern," which merits recognition and management beyond that provided through normal resource management for the full range of cultural resources and values (BLM California Desert District Palm Spring South Coast Resource area, June 1994, South Coast Resource Management Plan and Record of Decision; BLM Handbook, II-E, p. 7 (solutions for guaranteeing access to sacred sites include making specific land use designations like ACECs)).

In fact, BLM currently maintains the 1,920 acre Indian Pass ACEC just ¾ mile from the proposed mine (CDCA Plan 1980, p. 126). Importantly, this ACEC shares the same context with the trail confluence at the site. (BLM Impacts: Damage to Cultural Resources in the California Desert 1980, p. 144 ("Archaeological ACECs may become the most explicit and adaptable management tool for the creation of archaeological preserves.").

[130] This Order directs all federal agencies to inventory their cultural resources, to submit to the NRHP all qualified sites meeting the criteria, and to protect all nominated sites. It also directs the federal agencies to use due caution with respect to cultural resources until the inventory, evaluation, and nomination processes are completed. (FEIS CDCA Plan 1980, p. 77).

Very truly yours,



Courtney Ann Coyle
Attorney at Law

cc:

U.S. President William J. Clinton
U.S. Senator Barbara Boxer
California Senator Tom Hayden
California Representative George Miller
Council of Environmental Quality Kate McGinty
Secretary of the Interior Bruce Babbitt
BLM Director Pat Shea
BLM Chief Solicitor John Leshy
State Director California BLM Ed Hastey
Acting BLM California Desert District Manager Tim Salt
BLM El Centro Resource Area Manager Terry Reed
BLM State Archaeologist Russ Kaldenburg
California State Historic Preservation Officer Cherilyn E. Widell
Each Member, Imperial County Board of Supervisors
Imperial County Planning Director Jurg Heugberger
Glamis Gold Ltd. President and CEO C. Kevin McArthur

client(s) file

Attchs (36)

RESPONSE TO COMMENT LETTER I012 RECEIVED FROM COURTNEY ANN COYLE, ATTORNEY AT LAW, DATED APRIL 12, 1998

Response to Comment I012:001: (The Following Response is Also Applicable to Comments G004:005, H001:007, I012:024, I012:040, I012:043, I012:044, J012:003, J025:001, J025:002, J025:003, J025:004.) (See Also Responses to Comments D002:005 and I012:010.) The request for adoption of the No Action Alternative and for the preservation and protection of all cultural resources is noted, and the BLM response to this request is appropriately part of the BLM's decision-making process regarding the Plan of Operation, rather than a part of the environmental assessment required under NEPA, and will be appropriately addressed in the Record of Decision. While Section 4.1.6.3. (pages 4-84 through 4-87) of the Draft EIS/EIR proposes several mitigation measures to avoid or reduce potentially significant impacts of the Project, these mitigation measures will not mitigate all impacts to cultural resources below the level of significance. The Project is, therefore, not supportive with SCAG's RCPG policy. However, these policies are advisory only, and the BLM's balancing of its many mandates are more appropriately a part of the BLM's decision-making process regarding the Plan of Operation, rather than a part of the environmental assessment required under NEPA, and this issue will be appropriately addressed in the Record of Decision.

Revisions to the Final EIS/EIR: None.

Response to Comment I012:002: (The Following Response is Also Applicable to Comments I012:029, I012:045, I012:048, I012:049.) (See Also Response to Comment I015:007.) It is recognized that the purpose of Native American consultation under NEPA is to identify potential conflicts that would not otherwise be known to the BLM and to seek alternatives to resolve these conflicts. this is exactly the consultation process which has been undertaken. As stated in Section 3.6.2.2. (page 3-84) of the Draft EIS/EIR,

> "The NHPA, the American Indian Religious Freedom Act (AIRFA) and the Executive Order 13007 require federal agencies to consider Native American concerns in their land-use decisions and to grant access to Native American groups for religious observations, where possible. The BLM has issued internal guidelines which instruct that this consultation should be initiated early in the project review or decision-making process, and be conducted at the highest levels within the BLM jurisdiction responsible for the decision. The BLM initiated this consultation process with the Quechan Tribe in 1996, and the Quechan Tribe subsequently requested that members be directly involved in the cultural resource study and report. The consultation process is ongoing as of September 1997."

RESPONSE TO COMMENT LETTER I012 RECEIVED FROM COURTNEY ANN COYLE, ATTORNEY AT LAW, DATED APRIL 12, 1998

"In addition to this consultation process, a third-party ethnographic study based principally upon consultation with the Quechan Tribe has been completed to help identify contemporary Native American concerns and values associated with the area of the Proposed Action, document current Native American knowledge about the function and/or interpretation of available resources, and record the meaning and significance of resources to Native Americans today. The study also attempted to assist the BLM in its significance evaluation of sites and their eligibility for the NRHP (see also Section 4.1.6.1.), and to identify mitigation measures that Native Americans believe would be appropriate to minimize Proposed Action-related impacts to sensitive cultural resources."

"Native American groups, most notably the Quechan Indian Tribe, but also including the Colorado River Indian Tribes and the Fort Mojave Indian Tribe (all of which are federally recognized groups), have expressed strong cultural connections to the Project area, and strong concerns about the Proposed Action. This has included letters commenting on the November 1996 Draft EIS/EIR from the Quechan tribal chairperson, the Quechan Tribe's cultural committee, and interested tribal members; participation in public hearings on the November 1996 Draft EIS/EIR; and participation in a series of meetings with the BLM and the cultural resource contractors held since December, 1996."

Revisions to the Final EIS/EIR: None.

Response to Comment I012:003: See Response to Comment D002:005.

Response to Comment I012:004: See Responses to Comments D002:005 and I015:007.

Response to Comment I012:005: See Responses to Comments D002:005 and I012:007.

Response to Comment I012:006: See Response to Comment D002:005.

Response to Comment I012:007: See Response to Comment I005:004.

Response to Comment I012:008: See Response to Comment I005:004.

Response to Comment I012:009: See Response to Comment I005:004.

Response to Comment I012:010: (The Following Response is Also Applicable to Comments I012:001, I012:011, I012:012, I012:013, I012:014, I012:015, I012:016 and I012:017.) The Draft

RESPONSE TO COMMENT LETTER I012 RECEIVED FROM COURTNEY ANN COYLE, ATTORNEY AT LAW, DATED APRIL 12, 1998

EIS/EIR briefly discusses Executive Order No. 13007 in Section 3.6.2.2. and Section 4.1.13.2. Consideration of whether or not the Quechan have easement rights on public land is beyond the scope of this EIS/EIR.

Revisions to the Final EIS/EIR: None.

Response to Comment I012:011: See Response to Comment I012:010.

Response to Comment I012:012: See Response to Comment I012:010.

Response to Comment I012:013: See Response to Comment I012:010.

Response to Comment I012:014 See Response to Comment I012:010.

Response to Comment I012:015: See Response to Comment I012:010.

Response to Comment I012:016: See Response to Comment I012:010.

Response to Comment I012:017: See Response to Comment I012:010.

Response to Comment I012:018: (The Following Response is Also Applicable to Comment I010:011.) The Draft EIS/EIR discusses the effects of the Project on the lands and resources identified by the Quechan tribe as central to their culture, history, and religion in Section 4.1.6 (pages 4-78 through 4-87) and Appendix L of the Draft EIS/EIR. The BLM is responsible for deciding whether to approve the project in light of its own statutory and regulatory requirements. Trust responsibility concerns Indian trust property, and there are no trust properties in the project area, so the issue of trust responsibility is beyond the scope of this EIS/EIR.

Revisions to the Final EIS/EIR: None.

Response to Comment I012:019: See Response to Comment D002:005.

Response to Comment I012:020: See Response to Comment D002:005.

Response to Comment I012:021: (The Following Response is Also Applicable to Comment I012:022.) This topic is discussed in Section 4.1.13.2. (pages 4-125 through 4-127) of the Draft EIS/EIR, which includes references to other sections of the Draft EIS/EIR. The Draft EIS/EIR clearly

recognizes that significant, adverse and unmitigatable impacts would occur to Native American cultural resources in Section 4.1.6.4., and these impacts are summarized and reiterated in Section 4.1.13.2. of the Draft EIS/EIR. However, impacts to cultural resources does not necessarily result in Environmental Justice concerns, which focuses on disproportionate risk of minority or low-income populations being exposed to health or environmental hazards. The Draft EIS/EIR analysis did not identify any significant environmental or health hazards for either resident or non-resident user populations. The Draft EIS/EIR also found that the environmental consequences of the Proposed Action would not result in any conditions, such as reduced air quality, noise exposure, or transportation of hazardous or other materials, which could produce a substantial direct or indirect impact to human health or environmental effects to any population residing at the distances identified from the Project area (the closest residents are located at Gold Rock Ranch, approximately seven miles from the Project mine and process area; the closest concentration of Native American population to the Project mine and process are the housing units at the Fort Yuma Indian Reservation, located over sixteen miles away). Similarly, the Draft EIS/EIR analysis did not identify any significant environmental or health hazards that would occur as a result of the Project in any publicly accessible locations outside the fence boundary of the Project mine and process area. Thus, the finding that "no disproportionately high and adverse indirect human health or environmental effects to minority or low-income populations would result" is based on reasoned analysis and substantial evidence in the record.

Revisions to the Final EIS/EIR: None.

Response to Comment I012:022: (See Also Response to Comment I012:021.) Comment noted.

Revisions to the Final EIS/EIR: None.

Response to Comment I012:023: (The Following Response is Also Applicable to Comments A001:006, D002:004, I009:026, I012:024, I012:029, I012:043, I012:044, I013:035, I013:330, I013:342, I013:343, I013:344, I013:345, I013:346, I013:347, I013:349, I013:350, I013:351, I013:352, I013:448, I015:011, J014:008, J028:003, J028:005.) As described in Section 3.6.2.3. and Section 3.6.2.4. (pages 3-85 through 3-93, Section 4.1.6.2. (pages 4-81 through 4-83), and Appendix L of the EIS/EIR, several cultural resources, including the Indian Pass-Running Man ATCC, are determined to be significant and eligible for listing on the NRHP, based largely upon input from the Quechan. In particular, the Section 4.1.6.2 (page 4-83) of the Draft EIS/EIR states that "According to knowledgeable Quechan representatives, development of the Project would destroy their ability to use the Indian Pass-Running Man ATCC for religious and educational purposes, which would have a "devastating" impact on their cultural heritage." This same section (page 4-83)

RESPONSE TO COMMENT LETTER I012 RECEIVED FROM COURTNEY ANN COYLE, ATTORNEY AT LAW, DATED APRIL 12, 1998

of the Draft EIS/EIR also describes the Indian Pass-Running Man ATCC as including a section of the Trail of Dreams, and states that "The Quechan have stated that construction of the Project would permanently cut-off their ability to use the Trail of Dreams to travel physically and spiritually to the sacred Newberry Mountain."

Several mitigation measures are proposed in Section 4.1.6.3. (pages 4-84 through 4-87) of the Draft EIS/EIR to avoid or reduce potentially significant impacts. However, Section 4.1.6.4. (page 4-87) of the Draft EIS/EIR clearly concludes that the mitigation measures would not mitigate the loss of a portion of the ATCC to below the level of significance but, consistent with the comment, clearly states that impacts to the ATCC, several trails, and other cultural resources would be significant and unavoidable even after application of the proposed mitigation measures. The recommended documentation and other mitigation measures are designed to provide some mitigation for the loss of those resources, but the loss is still considered a significant, unmitigable impact. The comment that mitigation costs would be high is correct, but these would be paid for by the Project Applicant, who also hopes to develop additional measures through additional consultation with the Quechan. The NHPA does not prevent impacts from occurring to significant cultural resources, but rather, requires that a Federal agency consider those impacts in its decision making.

Revisions to the Final EIS/EIR: None.

Response to Comment I012:024: See Responses to Comments H001:004, I012:001 and I012:023.

Response to Comment I012:025: (The Following Response is Also Applicable to Comments I012:026 and I012:027.) (See Also Response to Comment A001:005.) Section 4.1.6.2. (pages 4-80 through 4-83) of the Draft EIS/EIR concludes that the Project will result in indirect, if not direct, impacts to the Indian Pass-Running Man Area of Traditional Cultural Concern (ATCC) and all significant sites located within the Project mine and process area. Specifically on page 4-81 of the Draft EIS/EIR:

> "Much of the Project mine and process area is expected to undergo direct impacts from excavation of the open pits and construction and operation of the leach pad, waste rock stockpiles, soil stockpiles, diversion channels, haul and access roads, and associated processing and support facilities. The remaining undisturbed acres within the Project mine and process area are principally the throughgoing ephemeral stream channels and isolated areas located between areas of disturbance. Given the intensive nature of the Proposed Action, essentially all of the cultural resources within the Project mine and process area are expected to experience either direct or indirect impacts without special mitigation."

RESPONSE TO COMMENT LETTER I012 RECEIVED FROM COURTNEY ANN COYLE, ATTORNEY AT LAW, DATED APRIL 12, 1998

The Draft EIS/EIR on page 4-83 also concludes that visual and aural impacts to the Indian Pass-Running Man ATCC would be significant:

> "The Quechan have stated that construction of the Project would permanently cut-off their ability to use the Trail of Dreams to travel physically and spiritually to the sacred Newberry Mountain. Additionally, because views into and from the Indian Pass-Running Man ATCC contribute to the significance of the Indian Pass-Running Man ATCC, the construction of the waste rock stockpiles and heap would cause a permanent, out-of-character visual intrusion that would severely disrupt cultural use of the Indian Pass-Running Man ATCC. Similarly, solitude is an important contributing characteristic of the Indian Pass-Running Man ATCC, and operation of the Project would cause substantial aural impacts to the Indian Pass-Running Man ATCC. Aural impacts would be long-term, but not permanent, as they would cease upon completion of mining and reclamation. Some of the Project ancillary facilities are also located within the Indian Pass-Running Man ATCC, and would adversely affect the character of the Indian Pass-Running Man ATCC, although to a relatively minor degree when compared to the impact of the Project mine and process area on the Indian Pass-Running Man ATCC. These impacts to the Indian Pass-Running Man ATCC are considered significant."

Appendix L of the Draft EIS/EIR also addresses visual and aural effects to the Indian Pass-Running Man ATCC, and concludes on page 314 that "Avoidance of visual and aural effects to traditional cultural values would not be possible if the Project proceeds."

The Draft EIS/EIR thus adequately addresses visual and aural impacts to cultural resources. Regardless of whether these impacts to the Indian Pass-Running Man ATCC are defined as direct or indirect, Section 4.1.8.4. (page 4-87) of the Draft EIS/EIR concludes that impacts to the Indian Pass-Running Man ATCC would be significant and unavoidable, even after implementation of the recommended mitigation measures.

Revisions to the Final EIS/EIR: None.

Response to Comment I012:026: See Response to Comment I012:025.

Response to Comment I012:027: See Response to Comment I012:025.

Response to Comment I012:028: Appendix L states the following on page 314:

RESPONSE TO COMMENT LETTER I012 RECEIVED FROM COURTNEY ANN COYLE, ATTORNEY AT LAW, DATED APRIL 12, 1998

> "The proposed new transmission line corridor runs about 200 m northwest of the Running Man geoglyph complex. This would add a new visual element to the ATCC during the 20 year mine operation period that is out of character with its National Register values. In addition, increased traffic would adversely affect the solitude of the place during operation. Another concern is the water pipeline, which is presently planned to run through CA-IMP-2727, where it would cross two trails. These intrusions, while significant, are probably dwarfed by the visual and aural intrusion of the mine and process area, which is only 1 km northeast of the Running Man complex."

Section 4.1.8.2. (page 4-82) of the Draft EIS/EIR concludes that construction of the water pipeline, overbuilt 92 kV/34.4kV transmission line, and other facilities would result in significant direct and indirect impacts to NRHP-eligible cultural resources, which include resources located both inside and outside of the Indian Pass-Running Man ATCC, at least prior to mitigation:

> "Project facilities constructed or operated within the Project ancillary area are either narrow, linear features (such as the transmission line, water pipeline, and Indian Pass Road realignments), or features of relatively small surface area (such as the water well pad areas and well pump generator area). Because there is generally more flexibility regarding the actual siting of each of these Project components, avoidance of NRHP-eligible cultural resources within the Project ancillary area is possible, although not completely certain . . . . These potential direct and indirect impacts to eligible cultural resources would be significant . . . . Because there is substantial flexibility regarding the location of those overbuilt 92 kV/34.5 kV transmission line facilities which produce the new surface disturbance, and because most of the significant cultural features are located in portions of the cultural sites outside of the actual overbuilt 92 kV/34.5 kV transmission line corridor, it is possible, but not certain, that all of the identified NRHP-eligible cultural resources within the overbuilt 92 kV/34.5 kV transmission line corridor would be avoided. However, the direct and indirect impacts of the construction of the overbuilt 92 kV/34.5 kV transmission line on eligible cultural resources would be significant prior to mitigation."

Regarding mitigation, Mitigation Measure 4.1.6-18 requires that impacts to NRHP-eligible cultural resources in the Project ancillary area (the area where utility lines and other facilities are proposed for construction) be avoided:

> "No ground disturbance should be allowed within features that contribute to the significance of the Indian Pass-Running Man ATCC. In site CA-IMP-2727, the water pipeline should be rerouted to the area already disturbed by Indian Pass Road. Alternatively, boring could be

utilized to avoid impacts to contributing features. All NRHP-eligible archaeological sites outside of the Indian Pass-Running Man ATCC should be avoided. Flagging and monitoring should be done in accordance with mitigation measure 4.1.6-5."

Thus, while direct impacts of a significant and unmitigable nature are expected to occur to portions of the Indian Pass-Running Man ATCC (including visual and aural impacts to the Running Man geoglyph complex) from construction of the Project mine and process area, no indirect impacts to these or other NRHP-eligible resources located in the Project Ancillary area are expected to occur due to the implementation of Mitigation Measure 4.1.6-5 and Mitigation Measure 4.1.6-18.

Regarding the indirect impacts associated with the overbuilt transmission line for additional development, Section 6.3 (page 6-2), Growth-Inducing Effects, of the Draft EIS/EIR analyzed the potential for future development due to the electrical transmission line and concluded that the Project would not attract or stimulate development. The new 92 kV transmission line would be removed following the completion on the project, and would not remain to attract or stimulate development. Project employment would not be sufficient to stimulate the development of additional housing or public infrastructure. Project expenditures, while substantial, would be spread to California, Arizona and other states, and would not provide significant economic stimulus to any individual economy.

Revisions to the Final EIS/EIR: None.

Response to Comment I012:029: (See Also Responses to Comments I012:002, I012:023 and I012:048.) The BLM and its consultants did not attempt to coerce the Quechan to develop and accept mitigation measures. BLM's review will consider whether the operation will cause unnecessary or undue degradation of the Federal lands, or will cause undue impairment of resources within the CDCA.

Revisions to the Final EIS/EIR: None.

Response to Comment I012:030: See Responses to Comments D002:005 and H001:004.

Response to Comment I012:031: See Responses to Comments I015:007, I012:032 and I015:002.

Response to Comment I012:032: (The Following Response is Also Applicable to Comments I012:031, I012:033, I012:034, I012:035, I013:267, I013:416, I015:001, I015:002, J018:002B and J029:002.) Section 4.1.10. (pages 4-109 through 4-111) of the Draft EIS/EIR describes the socioeconomic impacts of the Project. As the Draft EIS/EIR states, a net beneficial socioeconomic

effect is projected from both the construction and operation of the Project. The Draft EIS/EIR states that the Project is expected to create jobs for 120 full-time employees, and that the majority of these jobs would be expected to be filled by current residents of Imperial County, California or Yuma County, Arizona. The Draft EIS/EIR also states that given the shorter driving distance to Yuma, Arizona than the closest communities in California, it is likely that more workers would eventually reside in Yuma, Arizona over locations in Imperial County. (However, those employees which live in Yuma would still be responsible for paying to California the difference in state income tax between Arizona and California.) As stated in the Draft EIS/EIR, Imperial County would receive property tax revenue on the Project facilities which are anticipated to range between $0.25 million and $0.6 million annually. The Draft EIS/EIR also states that sales tax revenue on construction purchases alone is expected to amount to approximately $3.72 million, and annually approximately an additional $0.13 million. Annual non-capital expenditures are estimated to total $26 million (including payroll), estimated (based upon Picacho Mine data) to be distributed 37 percent to California, 38 percent to Arizona, and 25 percent to other states. The federal government would receive income tax from the approximately $7 million annual payroll.

The Draft EIS/EIR has exhaustively documented the potential social impacts of the proposed Project in Section 4.1.6. (pages 4-78 through 4-87), Section 4.1.13.2. (pages 4-125 through 4-127), and Appendix L of the Draft EIS/EIR, which also provide detailed discussions of the effects of the Project on Native American trails used for religious practices. The Draft EIS/EIR found that the loss of the trails would be considered significant and unavoidable, even after implementation of the proposed mitigation measures. Section 4.1.6. of the Draft EIS/EIR also documented that the Quechan felt the Project would destroy their ability to use the Indian Pass-Running Man ATCC for religious and educational purposes, which would have a "devastating" impact on their cultural heritage. Also, Draft EIS/EIR documented that the Quechan believed that the Project would permanently cut-off their ability to use the Trail of Dreams to travel physically and spiritually to the sacred Newberry Mountain.

Revisions to the Final EIS/EIR: None.

Response to Comment I012:033: See Responses to Comments I012:032 and I015:002.

Response to Comment I012:034: See Responses to Comments I012:032 and I015:002.

Response to Comment I012:035: See Responses to Comments I012:032 and I015:002.

Response to Comment I012:036: See Responses to Comments I002:012 and I010:006.

RESPONSE TO COMMENT LETTER I012 RECEIVED FROM COURTNEY ANN COYLE, ATTORNEY AT LAW, DATED APRIL 12, 1998

Response to Comment I012:037: See Responses to Comments I010:002, I010:006, and I015:007.

Response to Comment I012:038: Comment noted. As the Draft EIS/EIR concludes on page 4-87 (Section 4.1.7.4.):

> "The Indian Pass-Running Man ATCC, including the Trail of Dreams; seven (7) multi-component archaeological sites; and twelve (12) prehistoric trail sites in the Project mine and process area, each of which have been evaluated as eligible for the NRHP under Criteria "A," "C" and/or "D, " would not be avoided under the Proposed Action. If SHPO and the ACHP concur in the NRHP evaluation, adverse affects to each of these cultural resources would occur, and the impact of the Proposed Action would be considered significant and unavoidable, even after implementation of the mitigation measures specified in this EIS/EIR." (emphasis added)

Revisions to the Final EIS/EIR: None.

Response to Comment I012:039: (The Following Response is Also Applicable to Comments D002:001, I012:040, I012:41, I013:449, I013:450 and J008:005.) (See Also Response to Comment I013:328.) The concerns expressed by the Quechan and others regarding cumulative impacts to religious sites both at the Project area and elsewhere are consistent with the information discussed in Section 5.3.4. (pages 5-15 through 5-19) of the Draft EIS/EIR. This section of the Draft EIS/EIR also reflects the Quechan's increased awareness of and concern with development projects within its traditional territory. Specifically, the EIS/EIR discusses the cumulative effects on cultural resources of the Project and other past, present, and reasonably foreseeable future projects in the general vicinity of the project, and concludes that the Quechan's perspective is valid that recent projects have resulted in significant cumulative effects upon sites of high value to the Quechan contemporary heritage and future cultural survival.

The opposition by the Quechan and other non-Quechan individuals and organizations to the Project is acknowledged. However, discussion of how the BLM balances these cumulative impacts to these cultural resources and Native American values against the legitimate interests of others and the BLM's own mandates is more appropriately part of the BLM's decision-making process regarding the Plan of Operation, rather than as part of the environmental assessment required under NEPA and CEQA, and this issue will be appropriately addressed in the Record of Decision.

RESPONSE TO COMMENT LETTER I012 RECEIVED FROM COURTNEY ANN COYLE, ATTORNEY AT LAW, DATED APRIL 12, 1998

The effects of Quechan activities on the Fort Yuma reservation itself were not directly considered in the cumulative analysis as data regarding these impacts was lacking; however, these effects would not have reduced the cumulative effects below the level of significance.

Revisions to the Final EIS/EIR: None.

Response to Comment I012:040: (See Also Responses to Comments I012:001, I012:039, I012:041 and I013:327.) Regarding the Imperial Project, it is unlikely that any unidentified cultural resources will be discovered during Project construction or operations, particularly since most of the Project area has already been identified as some type of cultural resource. The Applicant will be legally bound to comply with all mitigation measures, including Mitigation Measure 4.6.6-3, which requires notification of the BLM if previously unidentified cultural resources are discovered during Project construction or operations. The enforcement of this mitigation measure is ensured by Mitigation Measure 4.1.6-2, which requires the designation of a project contact representative (PCR) responsible for overseeing all cultural resources compliance and coordinating with the BLM. The BLM would continue to have ultimate control and responsibility over Project compliance with cultural resource mitigation measures.

Revisions to the Final EIS/EIR: None.

Response to Comment I012:041: (The Following Response is Also Applicable to Comments I013:444, I013:445, I013:446, I013:447, J029:003.) (See Also Responses to Comments I012:039, I012:040 and I013:327.) The comment regarding the Picacho Mine Project do not address the adequacy of the Project Draft EIS/EIR, or even refer to the Project, and are noted.

Revisions to the Final EIS/EIR: None.

Response to Comment I012:042: (The Following Response is Also Applicable to Comments I013:012, I013:013, I013:072, I013:109, I013:110, I013:436, I019:005 and J007:014.) As stated in Section 2.1.10. (page 2-32) of the Draft EIS/EIR and correctly quoted in the comment, ". . . no geological surveys for the condemnation, exploration, or confirmation of mineralization outside of the Project mine and process area are proposed, or would be authorized, under the Proposed Action." (*emphasis added*) Thus, the Draft EIS/EIR makes it very clear that there are no stated plans for future exploration or confirmation of mineralization outside the project mine area.

The CEQA Guidelines [Section 15130(b)(1)(A)] states that "The following elements are necessary to an adequate discussion of significant cumulative impacts: (1) Either: (A) A list of past, present,

RESPONSE TO COMMENT LETTER I012 RECEIVED FROM COURTNEY ANN COYLE, ATTORNEY AT LAW, DATED APRIL 12, 1998

and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or . . . ." Section 15130(b)(1)(B)(2) states: "*Probable future projects* may be limited to those projects requiring an agency approval for an application which has been received at the time the notice of preparation is released, unless abandoned by the applicant; projects included in an adopted capital improvements program, general plan, regional transportation plan, or similar plan; projects included in a summary of projections of projects (or development areas designated) in a general plan or a similar plan; projects anticipated as later phase of a previously approved project (e.g. a subdivision); or those public agency projects for which money has been budgeted." The discussion following Section 15130 provides additional guidance regarding when a "project" may be considered a "reasonably anticipated future project:"

"When analyzing the cumulative impacts of a project under 15130(b)(1)(A), the Lead Agency is required to discuss not only approved projects under construction and approved related projects not yet under construction, but also unapproved projects currently under environmental review with related impacts or which result in significant cumulative impacts. This analysis should include a discussion of projects under review by the Lead Agency and projects under review by other relevant public agencies, using reasonable efforts to discover, disclose, and discuss the other related projects. The cumulative impact analysis requires a discussion of projects with related cumulative impacts which required EIRs, Negative Declarations, or were exempt from CEQA. (*citations omitted*) The court in SFFRG took note of the problem of where to draw the line on projects undergoing environmental review since application of new projects are constantly being submitted. A reasonable point might be after the preparation of the draft EIR. Additional project information could be included in the final EIR if cumulative impacts were originally analyzed in the draft EIR and if the new project information doesn't warrant the preparation of a subsequent or supplemental EIR as required by Section 15162 of the Guidelines."

"Subsection (b)(1)(B) authorizes a lead agency to limit its analysis of probable future projects to those which are planned or which have had an application made at the time the NOP is released for review. This describes a reasonable point in time at which to begin the cumulative impact analysis. Without this guideline, the cumulative impact analysis may suffer frequent revision as new, incremental projects are identified. If additional projects are identified later, they may be addressed during completion of the final EIR."

"Cumulative impacts analysis must include reasonably anticipated future activities of a project or associated with the project. Whether these activities are addressed in the cumulative impact analysis section or in the impacts associated with the project, as defined,

RESPONSE TO COMMENT LETTER I012 RECEIVED FROM COURTNEY ANN COYLE, ATTORNEY AT LAW, DATED APRIL 12, 1998

> if there is substantial evidence indicating reasonable foreseeable future projects or activities, an EIR must analyze the impacts of those future activities. The Court in *Laurel Heights* set forth the following two pronged test to determine whether an EIR must include an analysis of the environmental effects of future activities: (1) it is a reasonably foreseeable consequence of the initial project; and (2) the future action will be significant in that it will likely change the scope or nature of the initial project or its environmental effects. Absent these two circumstances, potential future expansion need not be considered." (*citations omitted*)

Other than those projects discussed in Section 5.2. ("Past, Present, and Reasonably Foreseeable Activities in the Area of Cumulative Analysis"), in November 1997 there were no known approved projects under construction or approved related projects not yet under construction with related impacts or which would result in significant cumulative impacts. Also, there were no known unapproved projects currently under environmental review with related impacts or which would result in significant cumulative impacts. Any possible expansion of the Imperial Project is purely speculative at this time, is not a reasonably anticipated future project, and not subject to cumulative environmental review until and unless there is a formal proposal submitted to the lead agencies for such expansion, and the lead agencies have begun the required environmental review process. Absent such a proposal, the number and location of any claims held by Glamis Imperial, or any other entity, within the area of cumulative review is no more relevant than any other private land ownership issue.

The fact that the mines in the vicinity of the Imperial Project have sought, and been granted, expansions in the past, is only relevant in that the comment supports the fact that any future activity associated with any project which is not otherwise already authorized would need to approved prior to implementation. This means also that the appropriate level of environmental review and public participation would again be required, and any possible impacts, whether direct or indirect, to cultural sites and Quechan religion and culture would be extensively analyzed at that time.

The Draft EIS/EIR is consistent in stating that Project operations were projected to commence in 1998 and terminate in approximately the year 2017, for a 20-year Project operational life. The Draft EIS/EIR also notes that reclamation activities may continue beyond the 2017 date. The Reclamation Milestone Schedule provided as Table 2.5 of the Draft EIS/EIR shows that the heap leach facility is neutralized during the 10th through 15th years, which must follow the completion of Project mining. This is entirely consistent with the statements attributed to the Applicant that the "mine life" was expected to be twelve years.

RESPONSE TO COMMENT LETTER I012 RECEIVED FROM COURTNEY ANN COYLE, ATTORNEY AT LAW, DATED APRIL 12, 1998

In 1998 a Plan of Operation (POO) was submitted to the BLM to expand the Mesquite Mine to lands located immediately north of the existing operations. This POO is currently undergoing environmental review. However, because the POO adds only 142 acres of presently unpermitted surface disturbance; does not alter the existing mining, processing and water extraction operations and rates; and does not extend operations beyond the dates assumed in cumulative impacts assessment in the Draft EIS/EIR, this proposal does not alter this analysis of cumulative impacts.

Revisions to the Final EIS/EIR: None.

Response to Comment I012:043: (The Following Response is Also Applicable to Comments I005:019 and I015:011.) (See Also Responses to Comments A001:005, D002:005, H001:004, I005:004, I012:001, I012:023, I012:044, I013:327, I013:337 and I015:008.) The Indian Pass-Running Man ATCC was evaluated in accordance with the National Park Service's guidelines for the evaluation of traditional cultural properties in Appendix L of the Draft EIS/EIR, and the evaluation of this ATCC as eligible for the NRHP is provided on page 282 and pages 287 through 292 of Appendix L. The evaluation of the Indian Pass-Running Man ATCC and its eligibility for listing on the NRHP was based on both archaeological investigations and the Native American consultation conducted for the Project. The cultural resource studies are documented in Appendix L and summarized in Section 3.6.2. (pages 3-81 through 3-93) and Section 4.1.6.2. (pages 4-80 through 4-83) of the Draft EIS/EIR, and were conducted in compliance with the NHPA. The BLM agrees with this evaluation of the Indian Pass-Running Man ATCC and has received the concurrence of the State Historic Preservation Officer (SHPO), and the ATCC will be afforded the protective status given to all National Register properties, subject to comment by the Advisory Council on Historic Preservation. Upon providing the Advisory Council a reasonable opportunity to comment on the effect that the Project would have on the ATCC and other listed or eligible properties, the BLM may adopt that course of action which it believes is appropriate and consistent with its mandates. Thus, "While the Advisory Council comments must be taken into account and integrated into the decision making process, program decisions rest with the agency implementing the undertaking" (36 CFR 60.2(a)). In effect, the NHPA does not prevent impacts from occurring to significant cultural resources, but does require that a Federal agency consider those impacts in its decision making.

Revisions to the Final EIS/EIR: None.

Response to Comment I012:044: (The Following Response is Also Applicable to Comments I012:043, I013:035, I013:036, I013:331, I013:332, I013:333, I013:334, I013:335, I013:336, J025:003, J025:004, J028:002.) (See Also Responses to Comments H001:004, I012:001, I012:023

RESPONSE TO COMMENT LETTER I012 RECEIVED FROM COURTNEY ANN COYLE, ATTORNEY AT LAW, DATED APRIL 12, 1998

and I013:002.) As stated in Section 3.6.2.3. (pages 3-85 and 3-86) of the Draft EIS/EIR, an intensive cultural resource survey was conducted of the Project area with Quechan participation. The survey, conducted at a 5-meter transect interval throughout most of the Project area, resulted in a complete inventory of observable archaeological resources. No testing was conducted since enough information was available to evaluate the significance of most sites, and the sites that could not be evaluated would not be impacted. Specifically, all 24 sites in the Project mine and process area and all 18 sites in the Project ancillary area were evaluated as either eligible or not eligible for listing on the National Register of Historic Places (see Table 3.12 of the Draft EIS/EIR). Forty-one of the 46 sites in the transmission line corridor were similarly evaluated, and the eligibility of five sites in this area is indeterminate (see also Table 3.12 of the Draft EIS/EIR). As further described in Section 3.6.2.3. (page 3-92) of the Draft EIS/EIR, a full evaluation of the significance of these five sites is not necessary since they would not be impacted. No data recovery has been conducted, and so the scientific potential of the sites has not been exhausted. Data recovery is recommended in Mitigation Measure 4.1.6-6 and Mitigation Measure 4.1.6-7. Regarding curation, as specified in Chapter 9, Data Recovery Recommendations (page 320), of Appendix L of the Draft EIS/EIR, "Materials and supporting documentation will be curated in an archivally stable condition. Curation at the Quechan Museum should be preferred. If necessary, assistance should be provided to the Quechan in meeting Federal standards for curation." Due to Federal involvement in any authorization of the Project, any cultural materials collected in the course of archaeological investigations must be properly curated pursuant to 36 CFR 79. The Applicant will be responsible for all data recovery expenses, including curation.

As described in Section 4.1.6.2. (page 4-81) of the Draft EIS/EIR and in Appendix L of the Draft EIS/EIR, 55 archaeological sites and the Indian Pass-Running Man ATCC have been evaluated as eligible for the NRHP. These sites are considered eligible under Criterion D (and, in some cases, other criteria), which applies to sites "that have yielded, or may likely yield, information important in prehistory or history" (see Section 4.1.6.1. [page 4-80] of the Draft EIS/EIR). As indicated in Mitigation Measure 4.1.6-6 on page 4-84 of the Draft EIS/EIR, additional research should be conducted by means of an archaeological data recovery program that would describe and analyze the features and artifacts of significant sites expected to be destroyed by the Project. Therefore, under Project approval, and pending Advisory Council concurrence regarding these sites' eligibility for the NRHP, most of the important information represented by these cultural resources would ultimately be retrieved by an archaeological data recovery program. However, since all impacts to these sites cannot be fully mitigated, as concluded in the Draft EIS/EIR, all potentially important information contained in these sites may not be yielded before the sites are impacted.

Revisions to the Final EIS/EIR: None.

RESPONSE TO COMMENT LETTER I012 RECEIVED FROM COURTNEY ANN COYLE, ATTORNEY AT LAW, DATED APRIL 12, 1998

Response to Comment I012:045: See Responses to Comments H001:004, I012:002 and I012:029.

Response to Comment I012:046: (The Following Response is Also Applicable to Comments I013:313, I013:314, I013:315, I013:316, and I013:317.) (See Also Response to Comment I013:004.) The cultural resources technical studies prepared for the Draft EIS/EIR (Appendix L of the Draft EIS/EIR and its Appendix C) were conducted objectively, independently, by qualified professionals (see Appendix A to Appendix L of the Draft EIS/EIR) with the highest of professional and ethical standards, and in conformance with all federal, state, and local laws. They were conducted under contract with the preparer of the EIS/EIR, not the Project Applicant, and under the direct management of the BLM. Neither the firms preparing these reports, nor the professionals preparing them, have any financial connection with either the Project or the Project Applicant. As indicated in the examples cited in this comment, the word "our" is used in the technical reports to compare and contrast characteristics of the Project area with those of other areas. The use of the word "our" in these reports cannot be interpreted as a failure to prepare an objective analysis of cultural resources of the Project area. The quote on page 14 of Appendix L does not document the "undue influence" of Glamis Imperial, but is an acknowledgment, in the section listing acknowledgments, of its assistance.

Revisions to the Final EIS/EIR: None.

Response to Comment I012:047: Comment noted.

Revisions to the Final EIS/EIR: None.

Response to Comment I012:048: The Following Response is Also Applicable to Comments D002:001, D002:003, I005:011, I010:014, I013:320, I013:321, I013:322, I013:323, I013:324, I013:325, I013:353, I013:355, I015:011 and I018:002.) (See Also Responses to Comments I012:002 and I012:029.) As documented in Appendix C ("Native American Consultation for the Glamis Imperial Project") to Appendix L of the Draft EIS/EIR ("Consultation Report"), as part of the National Historic Preservation Act (NHPA) Section 106 process, the BLM notified all potentially-affected federally-recognized Native American tribes regarding the Project, including the lower Colorado River tribes potentially affiliated with the Project area, and invited them to consult on the Project. Specifically, based on a mailing list provided by the Quechan Culture Committee, the BLM mailed letters on July 25, 1997 to tribal chairpersons and/or cultural resource representatives of the Fort Mojave, Colorado River Indian Tribes (CRIT), Hualapai, Yavapai-Prescott, Havasupai, Chemehueve, Salt River Pima-Maricopa, Tohono O'odham Nation, Kumeyaay, and Cocopah tribes, extending invitations to participate in a meeting with the BLM and

RESPONSE TO COMMENT LETTER I012 RECEIVED FROM COURTNEY ANN COYLE, ATTORNEY AT LAW, DATED APRIL 12, 1998

Quechan on August 25, 1997, or to otherwise provide input on the Project. Only representatives from Fort Mojave and CRIT responded and attended the August 25 meeting with the Quechan Culture Committee, BLM representatives, and cultural resource consultants. Input provided at that meeting is specifically documented on page 26 of the "Consultation Report." Subsequent to completion of the "Consultation Report" (September 22, 1997), CRIT participated in other meetings including, as stated in the comment, the Quechan Public Hearing on February 7, 1998.

Prior to publication of the "Consultation Report," the "Consultation Report" was provided to the Quechan Culture Committee for review and comment. With minor revisions, which were made, the Quechan Culture Committee approved the "Consultation Report" and indicated that it should be released for public review rather than kept confidential.

The BLM has complied with its Native American consultation requirements, and will continue to seek Native American input throughout the environmental review process for the Project.

Revisions to the Final EIS/EIR: None.

Response to Comment I012:049: See Responses to Comments H001:004, I012:002 and I012:029.

Response to Comment I012:050: See Responses to Comments D002:005, I010:002 and I013:002.

SIERRA CLUB, SAN DIEGO CHAPTER
San Diego and Imperial Counties
3820 Ray Street
San Diego, CA 92104-3623

Office (619) 299-1743
Conservation (619) 299-1741
Fax (619) 299-1742
Voice Mail (619) 299-1744
HBBS (619) 299-1015

April 13, 1998

Bureau of Land Management
1661 South Fourth Street
El Centro, CA 92243
Attn: Douglas Romoli

Re: 11/97 Draft EIS/EIR for Glamis Imperial Corp's Imperial Project, a proposed open-pit, cyanide heap leach gold mine on the Indian Pass Road in SE Imperial County, CA.
SCH # 95041025. BLM ECRA Case File No. CA-34210.

Dear Mr. Romoli:

We appreciate the extension of the comment deadline for the proposed Imperial Project. Thank you for making the deadline a postmark deadline instead of a "received by" deadline.

These comments supplement and incorporate those of our attorney, Western Mining Action Project.

001 By affirmative votes of the Conservation Committee and Executive Committee, the Sierra Club San Diego Chapter and the Sierra Club California/Nevada Conservation Committee (CNCC on 3/9/97) (Exhibit X-98) oppose Chemgold's Imperial Project, a proposed new open-pit, cyanide heap-leach gold mine on Indian Pass Road approximately 5 miles northeast from the junction with Ogilby Road in eastern Imperial County, CA. The revisions included in the 11/97 Draft EIS/EIR have not changed the opposition of the Sierra Club to the proposed open-pit cyanide heap leach mine on Indian Pass Road. Rather, additional research and information, including that in the Draft EIS/EIR technical appendix for cultural resources and a review of BLM 1980 CDCA Plan, 1980 CDCA Plan Final EIS and Technical Appendices, BLM NEPA regulations, and BLM Handbook Manual sections reconfirms the original conclusion that the proposed Imperial Project should be denied and no mining permitted at the proposed site.

At a time when the public is clamoring for more efficient government, and a government that treats the taxpayers with dignity and respect, the 1872 mining law instead condones the giveaway of public lands and valuable minerals worth billions of dollars for practically nothing and permits long-term environmental degradation of our public lands. (Sen. Dale Bumpers (D-AR) in the United States Senate, May 12, 1997, quoted in The Washington Spectator, Feb. 1, 1998, in an article entitled "In an ancient outrage, corporations get the gold -- we get the shaft.") (Exhibit AA-98.)

Nevertheless, recognizing the difficulties associated with mining proposals under the out-dated 1872 General Mining Law as amended, Sierra Club, Mineral Policy Center, California Wilderness

Printed on SVS recycled paper

Coalition, and The Wilderness Society submit the following analysis of the 11/97 DEIS/EIR (referenced herein as either DEIR/EIR, DEIS, or Draft EIS/EIR) which is intended as the environmental document for the 26 approvals from 4 federal agencies, 3 state agencies, and 4 Imperial County Departments, the ICAPCD, and County Board of Supervisors (DEIS I-1). As per 40 CFR 1503.3(a), these comments will address both the adequacy of the DEIS/EIR and the merits of the alternatives discussed.

CONCLUSIONS

002 Once again, for the reasons discussed in these comments and those submitted in response to the 11/96 Draft EIS/EIR (resubmitted as Exhibits 1 through 5), the Sierra Club, San Diego Chapter, the Mineral Policy Center, The Wilderness Society, and California Wilderness Coalition remain opposed to any approvals related to the proposed Imperial Project, an open-pit cyanide heap-leach gold mine on the Indian Pass Road. Accordingly we make the following recommendations that:

1. The project applicant withdraw the application and Draft EIS/EIR for the proposed open pit mining project on Indian Pass Road;

or if the Applicant fails to withdraw the proposal, the following NEPA/CEQA procedures be followed:

2. A Revised Draft EIS/EIR be prepared to correct the deficiencies found in the present document, its Reclamation Plan, and inadequate mitigation measures; and

3. A Revised Draft EIS/EIR be prepared and distributed for public review for the full comment period; and

4. The BLM withhold approval of/or deny the proposed plan of operations and other requested approvals, (approve the No Action Alternative) and

5. The County deny approval of the proposed Conditional Use Permit for water well or water wells as not being in the public interest, and

6. The County reject the proposed Reclamation Plan as being inadequate, and

7. The County not certify the Draft EIS/EIR as being prepared in conformance with CEQA.

Based on the archeological, cultural, religious, and visual resources which would have significant unmitigable impacts even after mitigation, and because the archeological, cultural and religious values are so extremely important in this area, we further affirmatively recommend that the area be immediately withdrawn from mineral entry and included in expansion of the nearby already designated Indian Pass Area of Critical Environmental Concern. Alternatively, we recommend that the area be withdrawal of the area from mineral entry and designated as a National Monument in order to protect and preserve for both present and future generations the archeological, cultural, and religious values of the area. By "area" we mean not only the proposed project site, but also a substantial area of land surrounding the proposed project site in all directions, an area whose boundaries would be recommended by archaeologists and members of the Quechan Indian Nation and its Cultural Committee.

The Sierra Club, San Diego Chapter, The Mineral Policy Center, California Wilderness Coalition, and Wilderness Society appreciate the opportunity to submit comments on the Draft EIS/EIR for the proposed Imperial Project on Indian Pass Road.

Respectfully submitted.

Edie Harmon
Sierra Club, San Diego Chapter

Aimee Boulanger
The Mineral Policy Center

Paul Spitler
California Wilderness Coalition

Norbert Riedy
Wilderness Society

Enclosures

cc:
Senator Barbara Boxer
Bruce Babbitt, Secretary of Interior
Pat Shea, BLM Director
John Leshy, BLM Solicitor
Ed Hastey, BLM CA State Director
Tim Salt, BLM Acting Director CDCA
John Morrison, Imperrial County Planning Department

Organization Contacts:

Aimee Boulanger
Mineral Policy Center
P.O.Box 2414
Durango, Colorado 81302

Edie Harmon
Sierra Club, San Diego Chapter
3820 Ray Street
San Diego, CA 92104
619-299-1744x8111

Norbert Reidy
Wilderness Society
P. O. Box 49241
San Francisco, CA 94129-0241

Paul Spitler
California Wilderness Coalition
2655 Portage Bay East #5
Davis, CA 95616

TABLE OF CONTENTS

Non-compliance with BLM State Director Instruction Memorandum re Surface Mining Activities and NEPA 1

Public Participation 1

Section 1.4 Scoping Using Previous Comments 1

Section 1.5 Scoping and Consultation Process 1

Inconsistent Project Legal Description and Mapping 3

Reclamation Plan 149-91 Includes Only T13S, R21E, and Has Not Been Amended to Include Sections in T14E, R21S Where past Exploratory Drilling Occurred, Nor Does it Match DEIS/EIR Legal Descriptions and/or DEIS/EIR or Reclamation Plan Map Location 4

Biological Opinion for Small Mining Exploration Operations 8

Deis Section 1.6 Misleads Readers with Respect to Federal Regulations Relating to Mining on Public Lands 10

Regulatory and Environmental Factors Described in the Glamis Gold Ltd. (GGL) 3/98 10-K/A Report Submitted to the Securities and Exchange Commission 11

"Free Access" to Minerals on Public Lands Does Not Automatically Carry a Right to Develop Mineral Deposits Regardless of Other Values 12

Changed Values and Withdrawal as a Tool for Protection of Nonmineral Resource Values 12

Draft EIS/EIR Section 1.6 Misrepresents Applicable Federal Law (FLPMA Section 601) and Requirements Spelled out in BLM's Adopted California Desert Conservation Area Plan and the Final EIS for the CDCA Plan 13

Text of Blm's 1980 Final Environmental Impact Statement and Proposed Plan for the California Desert Conservation Area Which Is Applicable to Mining Within Multiple Use Class L 18

Flpma Section 103 re Relative Resource Values 19

CDCA Plan EIS Appendix Vol. D: Native American Values and Cultural Resources 20

BLM ECRA and BLM CA State Director Have Rejected a Plan of Operations on a Section Adjacent to Proposed Imperial Project 21

Draft EIS/EIR is Also Inadequate under CEQA 22

Changes to Updated Imperial County Zoning Ordinance Cannot Be Ignored 22

Information in Both Draft EIS/EIRs Is Inconsistent with Glamis Gold Website Info and Inconsistent with Each Other 24

Section 2.1.3 Mining 25

Backfilling of the West Pit and the Singer Pit Are Proposals Only, Not Necessarily Requirements or Guarantees 25

The Question of Potential Valuable Mineralization 25

Complete Backfill Questions 26

Are the Applicant's Mining Claims Valid? 27

Profitability Where? Validity Exam When? Is Profitability Possible Here and Now? 27

Proposed Mining Operations Do Not Follow Usual and Customary Practice Prior to Leaching 30

Glamis Gold Recovery Rates 31

Imperial Project Reserves 31

Section 2.1.3 Mining Groundwater Issues 31

Section 2.1.4 Geochemical Characteristics of Mined Materials 32

Section 2.1.8.1 Heap Leach Facility 32

Section 2.1.8.3 Vadose Zone and Groundwater Monitoring 34

Mining Chemicals/Explosives. 34

Section 2.1.9.6 Roads 34

Section 2.1.9.8. Fences 34

Section 2.1.10. Exploration (11/96 Draft EIS/EIR) or Geological Surveys (11/97 Draft EIS/EIR). 34

Section 2.1.11.2.3 Drainage Reestablishment and Erosion Control 35

Reclamation Plan 35

Picacho Mine Revegetation Mitigation 36

Reclamation/Revegetation Plan for Imperial Project Is Inadequate, and it Ignores Reclamation/Revegetation Requirements and Successes at Other Desert Mines. . . 44

Picacho Mine Revegetation Effort Has Not Met Standards at Other Mines. 46

Soil Salvage Plans Are Not Appropriate to Ensure Long Term Viability of Soil Microbes. 48

There Is No Referenced Evidence for Successful Establishment of Long-term Plant Communities on Neutralized Leach Pads in Hot Dry Deserts. 49

Deis/eir Conclusions That Mitigated Impacts of Project Would Be "Below Level of Significance", That Impacts Would "Not Exceed the Level of Significance" and Are "Not Significant" Are Questionable. 50

Section 2.1.11.5 Financial Assurance 50

Financial Assurance and Revegetation Costs Proposed for Imperial Project Are Unrealistic and Inadequate. 55

Section 2.1.12. Other Environmental Impact Reduction Measures 56

Section 2.2. Alternatives to the Proposed Action 57

Section 2.2.3. Complete Backfill Alternative 58

Section 2.2.4. No Action Alternative. 59

Section 2.2.5. BLM Preferred Alternative 61

Section 2.3 Alternatives Eliminated from Detailed Consideration. 62

Section 2.3.1.1 Alternative Mining Locations. 62

Section 2.3.1.3. Alternative Mine Facility Locations Outside the Project Mine and Process Area. 63

Section 2.3.1.4. Alternatives to the Relocation of Indian Pass Road. 65

Section 2.3.2.1. Alternative Mining Techniques. 65

Section 2.2.4. No Action Alternative. 66
Environmental Effects of Imperial Project 66
Section 3.3. Hydrologic Resources 66
Section 3.3.1. Surface Waters 66
Section 3.3.1.1. Surface Flows 67
Section 3.3.2. Ground Waters 67
Section 3.3.2.1. Groundwater Quantity 68
Proposed Mine Project Will Create a Localized Condition of Groundwater Overdraft 70
California Requirement for Beneficial Use of Water Resources 71
Section 3.3.2.2. Groundwater Quality 72
"State of the Art" Does Not Mean Fool-proof or Safe. 73
Section 3.5. Biological Resources 75
Section 3.3.5. Vegetation 76
Baseline Vegetation Studies Are Inadequate 76
Section 3.5.6.2. Biological Survey Findings 78
Section 4.1.5.2. Impacts of the Proposed Action on Vegetation and Plant Habitat 78
Wildlife Impacts of Mining from the CDCA Plan. 79
Section 4.1.5.3.1. Impacts on Wildlife Habitat 80
Section 4.1.5.3.2. Impacts on Wildlife and Wildlife Movement 80
Section 4.1.5.3.3. Impacts to Threatened or Endangered Wildlife Species 81
Section 3.6.2. Cultural Resources 82
To Whom Does the Word "Our" Refer? 83

Section 3.6.2.2. Native American Values 85

Section 3.6.2.3. Cultural Resources Survey Results 87

Cultural Resources Tech Appendix States Additional Research Is Needed. 88

Section 3.6.2.4. Area of Traditional Cultural Concern (ATCC) 89

Section 4.1.6. Cultural Resources 89

The Importance of Long-term Planning for Mineral and Non-mineral Resource Values on Public Lands 97

BLM South Coast Resource Area Designated the Kuchamaa ACEC in 1994 to Protect the Religious Values of the Kumeyaay People 99

Section 3.7. Visual Resources 100

Section 3.7.1. Visual Resources Regulatory Framework 102

Section 3.7.2. Existing Visual Resources 102

Section 4.1.7.2. Visual Impacts of the Proposed Action 103

Section 4.1.7.3. Mitigation Related to Visual Impacts 104

Section 3.8. Noise 104

Section 4.1.8. Noise Impacts 106

Section 3.9. Land Use 106

Section 4.1.9. Land Use 107

Impacts of Proposed Project on Recreational Resources 107

Section 4.1.10.2. Socioeconomic Impacts of the Proposed Project 108

Section 3.11. Road and Public Services 108

Chapter 5. Cumulative Effects 109

Section 5.2.1. Mining Uses 109

Section 5.2.1.2 Mesquite Mine 109

Potential for Expansion of Proposed Imperial Project Mine 109

Extent of Mining Claims, Potential for Expansion and Company's Historic Record of Expansion at its Nearby Picacho Mine 110

Information Better Revealed for Other Projects: Important for Understanding Potential Impacts of Future Expansions 111

Section 5.2.2.3. Agricultural Projects and Section 5.2.3. Water Conservation Projects 112

Section 5.3.4 Cultural Resources 114

Section 6.1. Relationship Between Local Short-term Use of the Environment and the Maintenance and Enhancement of Long-term Productivity 116

Section 6.2. Significant Irreversible and Irretrievable Resource Commitments 116

Section 6.3. Growth-inducing Effects 116

Conclusions 117

SIERRA CLUB, SAN DIEGO CHAPTER, MINERAL POLICY CENTER, CALIFORNIA WILDERNESS COALITION, AND WILDERNESS SOCIETY COMMENTS ON 11/97 DRAFT EIS/EIR FOR GLAMIS IMPERIAL CORP'S IMPERIAL PROJECT, A PROPOSED OPEN-PIT, CYANIDE HEAP LEACH GOLD MINE ON THE INDIAN PASS ROAD IN SE IMPERIAL COUNTY, CA. SCH # 95041025. BLM ECRA Case File No. CA-34210.

NON-COMPLIANCE WITH BLM STATE DIRECTOR INSTRUCTION MEMORANDUM RE SURFACE MINING ACTIVITIES AND NEPA

003 1. Last week the Sierra Club submitted a letter to BLM State Director, Ed Hastey, questioning whether the current version of the Imperial Project Draft EIS/EIR is a legally valid document because it does not comply with what appears to be mandatory provisions of the Instruction Memorandum distributed by the BLM State Director. That letter is attached as Exhibit XX-98. We raised the same question last year and have received no written response either last year or this year. However it is our understanding that the provisions contained within the BLM State Director's Instruction Memorandum are still valid and have been incorporated to BLM's NEPA provisions.

PUBLIC PARTICIPATION

004 2. BLM September 1996 "Overview of BLM's NEPA Process" includes the following discussion about the role public involvement in informed decision-making. As this BLM documents states:

> Importance of involving the public cannot be overstated. The request for and correct use of public input and comments are essential to achieving public scrutiny during the NEPA process. All formal requests for public involvement in either an EA-or EIS-level analysis should meet public participation requirements in BLM's NEPA Guidance. All written an oral input received during the public meeting or hearing should be documented as part of the supporting record. All substantive input relating to issues, technological advances, analysis data, and the accuracy-of scientific information where inventory data used must either be responded to were used in the NEPA analysis. Input stating agreement or disagreement with a particular alternative, including the proposed action, is not considered substantive input but should be considered when making the final decision. Following principles should guide the public involvement process:
> (a) The process should allow enough time for the public to participate.
> (b) The process must be fair in fully considering all views that were offered.
> (C) The process should be open for anyone who wants to participate.
> (d) the public should be involved early from the beginning through the end of the process to build good relationships over the long-term. (BLM September 1996 "Overview of BLM's NEPA Process" at p. 41.)

SECTION 1.4 SCOPING USING PREVIOUS COMMENTS
SECTION 1.5 SCOPING AND CONSULTATION PROCESS

005 3. The DEIS/DEIR at page 1-6 states that when the original DEIS was withdrawn that all the comment letters were considered to be scoping letters for this November 1997 DEIS/DEIR. If that is the case, the comments on the original DEIS/DEIR, now considered scoping letters, were treated very differently in the November 1997 DEIS/DEIR than the scoping letters for the original proposal were treated in the 1996 DEIS/DEIR. In 1996 all of the scoping letters were contained in Technical Appendix B

in Volume 2. In 1997 there were no scoping letters contained in Technical Appendix B of Volume 2. Thus, the public and the agencies that have submitted scoping comments on the original document have no way of knowing whether the concerns that were submitted by the authors of the comment or scoping letters or by other agencies and departments were ever addressed or whether the comments concerned were addressed adequately.

006 4. In Table I.1, the summary of the primary concerns from the comment letters in DEIS/DEIR page 1-7 of the 1997 DEIS/DEIR is inadequate to inform the public of the true content and the true nature of the comment letters. It is particularly important for the public to know which issues were raised by state or federal agencies, the Quechan Indian Nation, archeologists, or environmental organizations or those with specific expertise on a particular topic. Although we have reviewed all of the 425 comment letters on file at the BLM El Centro Resource Area office, we doubt that many members of the public or other organizations have had the opportunity to do so. To withhold the comment letters from the November 1996 DEIR/DEIS and to withhold all of the scoping letters, whether they were submitted as scoping letters or comment letters, from the November 1997 DEIS/DEIR is a serious departure from the way in which scoping letters and comment letters have been treated for all other projects in Imperial County. The comments on the DEIS/DEIR, whether for NEPA or CEQA, have always been included in the final EIS/EIR. For example, the recent Mesquite Regional Landfill included copies of all comment letters and scoping letters and the Agency response to comments. These letters were included in the final EIS/EIR in a volume called Responses To Comments. In this case, because so many of the comment letters on the 1996 DEIS/DEIR were very critical of the project and of the adequacy of the EIS/EIR, it is particularly important that those comment letters be made available for public review so that a skeptical and doubting public can determine the issues that were raised have been addressed and whether the responses to those issues and any changes made in the document are truly responsive and adequately responsive to the comments raised. Such a departure from the traditional ways in which comment letters have been treated for all other projects in Imperial County warrants an explanation for the public. A public agency managing public lands must make every effort to assure informed participation of the concerned public. Withholding scoping letters and previously submitted comment letters raises public concern about the environmental review and decision-making related to management of its public lands. These concerns were shared with BLM in our August 1997 scoping letter which is attached as Exhibit ZZ 98.

007 5. Some of these concerns were addressed in the Sierra Club's scoping letter that was submitted in 1997, however, none of the scoping letters were included in the 1997 DEIS/DEIR. This scoping letter is resubmitted as Exhibit 5. The DEIS/DEIR at page 1-8 states that the comment letters and the scoping letters are on file at the BLM El Centro Resource Area office and the Imperial County Planning and Building Department. This may be considered adequate if one lives in El Centro, but clearly this an inadequate means of making the information available to those commentors, organizations, state and federal agencies who have their offices or live hundreds of miles away from El Centro. To expect commentors and agencies to travel to El Centro to review documents is unreasonable. Although the BLM says that documents are on file and can be reviewed in their office, at this time BLM is allowing public to review documents for only two hours at a time. When Harmon called to make an appointment to review documents in the BLM library on February 12, she was told that she would not be allowed to review documents for any longer than two hours. We don't know whether this means that BLM is restricting Sierra Club access to documents and research materials in the library, or whether it is restricting access by all reviewers to documents on file at the BLM office. But clearly, if one were to travel three, four or five hours each direction to review documents, and take several days to review documents at the BLM office, the idea of being able to spend only two hours on any given day is effectively restricting public access to the

documents and information that have been provided in response to this specific project. This is clearly inconsistent with the CEQA and NEPA requirement that information be made available to decision makers and concerned members of the public.

INCONSISTENT PROJECT LEGAL DESCRIPTION AND MAPPING

0086. The proposed project described in the DEIS/EIR, appended Reclamation Plan (Rec Plan) revised in 1997, and County Reclamation Plan No. 149-91 has inconsistent written project locations. DEIS Rec Plan describes the project as being located: "on public lands administered by BLM within Sections 31, 32, and 33, Township 13 South, Range 21 East, and Sections 4, 5, 6, 7, and 8, Township 14 South, Range 21 East ..." (Rec Plan at 8, and DEIS/EIR at 1-1.)

0097. This is three fewer Sections than were included in the 11/96 DEIS/EIR. Sections 28, 29, and 30 in T13S, R14E have been deleted from the proposed Imperial Project for the 11/97 DEIS/EIR. These omitted sections are at the northern portion of the proposed mine project. However, a comparison of Fig. S-3 "Imperial Project Mine and Process Area Facilities" in both the 11/96 and 11/97 DEIS/DEIRs and Rec Plan Fig. 3 of the same title all reveal identical size and shape for the northern boundaries of the proposed mine. How can this be if the revised project includes three fewer sections? Please include a figure depicting the boundaries of the proposed project superimposed on a map which identifies each of the sections included in the legal description.

0108. Appendix L states that: "The Project area is located within Sections 30,31,32,33, Township 13 South, Range 21 East. and Sections 4,5,6,7, 8, and 9 Township 14 South Range 21 East,..., entirely on public lands administered by the BLM." (Draft EIS/EIR Appendix L. at p. 11.) By contrast, the Draft EIS/EIR at p. S-2 states that the unpatented mining claims proposed to be mine property "are located within portions of Sections 31,32, and 33, Township 13 South, Range 21 East, and Sections 4,5,6,7, and 8, Township 14 South, Range 21 East". Why does Appendix L specifically identify two sections which are not included in the proposed project area listed in the Draft EIS/EIR? Technical Appendix D at p. 1 uses the same Project description as the main body of the Draft EIS/EIR.

0119. The Appendix L Figure 1-4 Project Ancillary Area and Figure 1-5 Transmission Lines depict the proposed Imperial Project mine and process area into different locations with respect to the configuration of the Indian Pass Road. (Exhibit VV-98.) Why the differences when these figures face each other? Which figure is correct?

012 10. We are well aware that the project applicant has paid up mining claims in the two sections and on other sections surrounding the proposed Imperial Project mine site. This is also confirmed by Glamis Gold Ltd's (GGL) 10 K/A report reference to 100% control of 579 mining claims on 10,630 acres (GGL 3/98 10 K/A at p. 38) or on 10,800 acres in its information to investors.

013 11. There are additional concerns raised by information provided by Glamis Gold for its investors. Glamis information obtained from the Internet includes the statement that: "The Company holds a 100 % interest, subject to a 1.5% net smelter return interest, in approximately 10,800 acres in eastern Imperial County, CA. The Imperial County claims, now known as the Imperial Project..." The Internet information reveals a proposed 12 year Project life (Exhibit Y 98), while the Draft EIS/EIR asserts the 19 or 20 year Project life. With approximately 1,600 acres being projected as a part of the proposed Imperial Project, it is imperative to know why the company asserted that it has a 100% interest in approximately 10,800 acres

in eastern Imperial County. Is this the amount of acreage onto which the Company believes it can and will expand to in the future? If so, why is that not discussed in the Draft EIS/EIR? What is the location of this vast acreage in eastern Imperial County in relation to the proposed Imperial Project site that is defined by the Draft EIS/EIR?

RECLAMATION PLAN 149-91 INCLUDES ONLY T13S, R21E. AND HAS NOT BEEN AMENDED TO INCLUDE SECTIONS IN T14E, R21S WHERE PAST EXPLORATORY DRILLING OCCURRED, NOR DOES IT MATCH DEIS/EIR LEGAL DESCRIPTIONS AND/OR DEIS/EIR OR RECLAMATION PLAN MAP LOCATION

014 12. The 1997 Rec Plan 2.2 "Name of Mineral Property" states that the proposed project and past exploration relied on County Rec Plan #149-91 when it says: "Imperial Project (previous and current activities conducted under the name "Indian Rose Project." County Reclamation Plan No. 149-91). There are serious questions about the exploratory drilling program based on materials in BLM's mining claims case file and in the Imperial County Planning Dept. file for Rec Plan #149-91.

015 13. BLM mining claims case file for the Imperial Project reveals locations which are inconsistent with that described in the County Planning Department case file for the Imperial Project Reclamation Plan 149-91 Assessor's Parcel No.039-200-01-01. A review of the case files at these two locations, the County Planning Department and BLM El Centro Resource Area, reveals some potentially very serious problems about the nature of this project and the way it has been handled by these two offices. The Imperial County Planning Department document Notification of Action by the Planning Commission and its resolution approving Reclamation Plan 149-91 as submitted by Imperial Gold Corp. reveal that this Reclamation Plan was approved on May 22, 1991.

016 14. The resolution approving the Reclamation Plan indicates that the reclamation was for a proposed exploratory drilling program on all of Township 13 South, Range 21 East, approximately 23,040 acres. This is 36 square miles. (See exhibit G98.) Another document in the file for Reclamation Plan 149-91 is the February 14, 1991 letter by the Planning Director to eight different departments or agencies as a cover letter to the attached Reclamation Plan application for Reclamation Plan 149-91 for the Imperial Gold Corp.

017 15. This document is extremely significant because although it lists eight different recipients for the letter and copy of the Reclamation Plan, it is notable because it fails to list the Imperial County Fish and Game Commission whose secretary has an office right across the parking lot from the Planning Department. It also fails to include the U.S. Fish and Wildlife Service. By 1991, the desert tortoise had already been listed as a threatened species and was known to occur on the land that was included for the proposed exploratory drilling for this Reclamation Plan. It is appalling to think that the County Planning Department would fail to include to include notice and request for comment from the U.S. Fish and Wildlife Service for any project of 36 square miles including desert tortoise habitat where desert tortoises were known to occur. On the same day that the County made the decision approving the Reclamation Plan the Planning Director also sent a notification to the California Office of Planning and Research notifying them of the Planning Commission action with regard to Reclamation Plan 149-91. (See exhibit K-98.) It was noted that this project had a Negative Declaration, that mitigation measures were not a condition of approval for the project, and that findings were not made pursuant to CEQA. This is particularly interesting given the size of the parcel in question and the fact that there were desert tortoises on site. Planning Department documents for this project at this early stage did not discuss desert tortoise in detail,

however documents on file at the BLM did note presence of desert tortoise and cultural resources in the area. It is our understanding that the U.S. Fish & Wildlife Service and Imperial County Fish and Game Commission indeed were not notified.

018 16. As you read further we urge you to note that the county Reclamation Plan 149-91 includes exploratory drilling only on Township 13 South and Range 21 East. There is no mention of exploratory drilling or reclamation plan submitted, proposed, or discussed for Chemgold, Imperial Gold, or any other project name on additional township and ranges along Indian Pass Road, such as in T14S, R21E that would be subject to the proposed plan. Indeed, the Draft EIS-EIR for the proposed Imperial Project Volume I includes Appendix A, the Reclamation Plan for the proposed open pit cyanide heap leach mine. On page 6 of the Reclamation Plan Section 2.2 "Name of mineral property" states "Imperial Project (previous and current activities conducted under name "Indian Rose Project, " County Reclamation Plan 149-91). "This sentence appears to confirm the fact that the project applicant never applied for a reclamation plan or surface mining and reclamation approval from the county for any exploratory drilling on any township range or section other than that in Township 13 South, Range 21 East. We can safely assume that if Reclamation Plan approval for additional exploratory drilling had ever been sought or granted it would have been included in the Draft EIS-EIR Reclamation Plan in Appendix A.

019 17. A review of the Imperial Project Mine case file at the BLM El Centro Resource Office suggests that exploratory drilling has been conducted by the project application on sections within Township 14 South, Range 21 East without ever seeking the approval for the Reclamation Plan from the County Planning Department. In California the BLM signed a Memorandum of Understanding indicating that it would defer to the local jurisdiction for approval of Reclamation Plans under the Surface Mining and Reclamation Act. It appears that in this case the project applicant has failed to do so and that the those reviewing the BLM case file never bothered to check to find out if the County approvals had been granted or sought as required.

020 18. The BLM case files for the mining claims has a number of Environmental Assessments and Records of Decision included. Many of these include proposals for exploratory drilling including Township 31 South, Range 21 East, Sections 31,32, and 33. In addition, they also include Township 14 South, Range 21 East, Sections 4,5,6,7, and 8. We found no documents at the County Planning Department which indicated that a Reclamation Plan had ever been approved or amended related to this project for exploratory drilling in sections located located within Township 14 South and Range 21 East. This would suggest that the project applicant has gone ahead and proceeded with filing plans of operation for exploratory drilling on BLM lands for which he has not previously or even simultaneously received surface mining Reclamation Plan approval under Surface Mining and Reclamation Act (SMARA) from the County.

021 19. Three of the Environmental Assessments found in the BLM case file were from 1994, 1995, and 1996. Although they are under the ten acre minimum which would allow them to avoid seeking U.S. Fish & Wildlife approval and biological consultation because of the desert tortoise, if one adds all of the acreage included in the reclamation proposals or the plans of operations submitted to BLM then this does indeed exceed the ten acre minimum and it appears as if the project applicant has been piecemealing exploratory drilling plans of operations with BLM and filing new submissions ever year or every six months referring to the same original biological opinion which is referenced but which is not attached to the documents which we received. The Biological Opinion referenced is 1-6-92-F-28. It would appear to be inappropriate to piecemeal all of these Environmental Assessments under the same Biological Opinion,

because clearly the impacts have exceeded what was initially submitted to the U.S. Fish & Wildlife Service for exploratory drilling.

022 20. We have also reviewed the BLM Handbook Manual for National Environmental Policy Handbook Code H-1790-1 Chapter IV& V related to environmental assessments as opposed to preparation of Environmental Impact Statements. The Environmental Assessments which were prepared in 1994, 1995, and 1996 all came after the designation of critical habitat for the desert tortoise. Therefore, the preparation of environmental assessments with findings of no significant impacts and records of decision without any notification or distribution to the public or resubmission to the U. S. Fish & Wildlife seems particularly inappropriate. The 1989 map showing the location of mining claims both North, South, East and West of the proposed mine site along the Indian Pass Rd. (covering almost the entire area) should alert BLM to the potential magnitude of the proposed open pit mining operation that the project applicant had in mind. Because of the extent of the area with claims obviously controlled by the project applicant, BLM should have notified the public, particularly the Quechan Indian tribe of the environmental assessments of this piecemealing effort at exploratory drilling for a proposed open pit mine.

023 21. The real clue that BLM should have notified the public for these Environmental Assessments is given in, for example, EA #CA-067-EA94-039 Proposed Action title: "Exploratory Drilling to evaluate potential for an open pit gold mine – the location of proposed action: Township 13 South, Range 21 East, Sections 31,32,33, southwest corner, Township 14 South, Range 21 East, Sections 4,5,6,7,&8". Applicant if any: Chemgold Incorporated. BLM should have been able to conclude that the ultimate impacts of the proposed project preliminary exploratory drilling would lead to the Company's hoped for open pit mine on the identified sections. This should have alerted BLM to the need for public review of the EA and FONSI (Finding of No Significant Impact) pursuant to BLM handbook H-1790-1 Chapter IV Subsection C4 notifying the public and to notify USFWS.

024 22. There is no indication in the BLM case file for the mining claims that any effort was made to notify any members of the public, the Quechan Indian tribe or anyone else. There is no indication of any newspaper articles announcing document availability, the Record of Decision, and EA and FONSI. There is no indication of any letters being sent to any members of the public, the Quechan Indian Tribe, USFWS, or anyone else. The environmental assessments for the exploratory drilling appear to contain no discussion of alternatives and no discussion of cumulative impacts, although from looking at the file it is quite obvious that numerous environmental assessments for exploratory drilling in this area were included. Failure to discuss cumulative impacts is deemed significant. Failure to provide public notification is also significant. Failure to notify the public means that the document did not serve its intended public purpose.

025 23. A review of the Planning Department files, BLM files, and the environmental assessments raise serious questions about the integrity and motives of the project applicant in filing the various paperworks with both the County and BLM, and the level of oversight and coordination between these two agencies which happen to be the lead agencies for the Draft EIR/EIS in this case. It appears that the project applicant has been able to do pretty much as he pleased with minimal oversight and supervision from County or BLM.

026 24. This is not a new project. The files at the County indicate that requests for approval of a Reclamation Plan for exploratory drilling pre-date the notice for preparation of the Draft EIS/EIR by many years.

027 25. Purpose and objective of the proposed project as listed in Section 1.7 points out contradictions

between the information on file in the BLM case file and information in the Imperial County Planning Department Reclamation file for Reclamation Plan 149-91.

028 26. In DEIS/DEIR at page 1-16 it states that in 1989 Glamis Gold purchased the mining claims, and that between 1989 and 1995 they did exploratory drilling to determine presence of gold and silver on those claims. It appears obvious from the review of the case files at BLM that this exploratory drilling was done by piecemealing exploration into small portions so that there would be no statutory requirement that the US Fish & Wildlife Service be notified in advance for comments on the project. Also, the review of the two files, one in the County and one at BLM, indicate that exploratory drilling occurred in locations other than that which was covered and permitted by the County approval of Reclamation Plan 149-91. Indeed, information on file in those two locations raised serious questions about the nature of the project and what the public can expect in the future.

029 27. The public and the Quechan Indians were obviously notified of the potential for a much larger project than indicated in the EAs in the BLM mining case file because the BLM's notice of intent to prepare the EIS for the Imperial Project was published in the Federal Register on March 24, 1995 and Imperial County distributed it's notice of preparation for preparing an EIR on April 5, 1995. (Draft EIS/EIR page 1-5) These notices went out, but it is highly probable that the public didn't really understand the full nature and extent of the project or the relationship of the project to the other valuable resources, including archaeological and religious resources at the particular project site. Having released its notice of intent to do an EIR, one then must question even more seriously why BLM continued to do environmental assessments for exploratory drilling without notifying the public, and without submitting those environmental assessments for public review and comment. The question remains: why were BLM's Records of Decision not distributed for public review so the public could protest at that time if it wanted?

BIOLOGICAL OPINION FOR SMALL MINING EXPLORATION OPERATIONS

030 28. Based on review of the Imperial Project mining claims file at the BLM El Centro Resource Area office, it appears that the USFWS should have been noticed of the proposed exploratory drilling, environmental assessments, and records of decision related to early stages for this project. The FWS 6/1/92 "Biological Opinion for Small Mining in Exploration Operations in the California Desert" (3809 6840 CA-063.50 (CA-932.5)) (1-6-92-F-28) was prepared in response to a request by the BLM CA State Director. This biological opinion "addresses small mining operations, minor exploration, and test drill holes in which the surface disturbance where the area from which desert tortoises are to be removed is less than 10 acres." (FWS BO, at p. 1.) The documentfurther states that: "All mining actions within the California Desert Conservation Area that meet the criteria for inclusion under this proposed action may be covered by this Biological Opinion. A separate consultation would be initiated for any proposed action that does not meet these criteria." Among the information that was provided by the BLM in a memorandum dated 3/25/92 related to this requested Biological Opinion for small mining and exploration operations includes limitations that "phased mining developments would only be considered under this Consultation if the total disturbance of all phases is less than 10 acres." (Emphasis added. FWS BO 1-6-92-F-28 at p. 2.) While we have not totaled all of the area indicated as being disturbed by the various Environmental Assessments and Records of Decision related to exploratory drilling by Chemgold/Glamis Gold from the beginning of exploratory drilling through the time of submission of the Draft EIS/EIR, there is no doubt that the total acreage exceeds 10 acres. Therefore, we believe that the Service should have been notified and its concerns should have been sought prior to any record of decision on an EA for exploratory drilling. The failure of BLM, Imperial County, and the proposed Project Applicant to notify

the US Fish and Wildlife Service of the proposed exploratory drilling for an open pit mine on the sections identified in the mining Project proposed for the current Draft EIS/DIR raises troubling questions about the record of compliance with mandatory regulations by the BLM, County, and project applicant. If the BLM, the County, the applicant failed to comply with mandatory requirements of notification in early stages of the mining proposals, why should the public now believe that the same parties would implement or enforce any mitigation measures proposed in the Draft EIS/EIR?

DEIS SECTION 1.6 MISLEADS READERS WITH RESPECT TO FEDERAL REGULATIONS RELATING TO MINING ON PUBLIC LANDS

031 29 DEIS Sec. 1.6.1 "BLM Surface Management Authorizations and Relevant Plans" misleads the reviewers by selectively omitting several very important sections of the 43 CFR 3809 "Surface Management" which are particularly relevant for the Imperial Project because of the importance of the non-mineral resources at the site and in the vicinity of the proposed open-pit mine.

032 30. 43 CFR 3809 does far more than "recognize the statutory right of mineral claim holders" (DEIS at 1-12). As included in BLM's 1996 special publication Location and Patenting of Mining Claims and Mill Sites in California 43 CFR 3809 - Surface Management (Exhibit A-98) includes the following relevant sections:

General

3809.0-1 Purpose

The purpose of this subpart is to establish procedures to prevent unnecessary or undue degradation of Federal lands which may result from operations authorized by the mining laws.

3809.0-2 Objectives

The objectives of this regulation are to:

(a) Provide for mineral entry, exploration, location, operations, and purchase pursuant to the mining laws in a manner that will not unduly hinder such activities but will assure that these activities are conducted in a manner that will prevent unnecessary or undue degradation and provide protection of nonmineral resources of the Federal lands;

(b) Provide for reclamation of the disturbed areas; and

(c) Coordinate, to the greatest extent possible, with appropriate State agencies, procedures for prevention of unnecessary or undue degradation with respect to mineral operations.

3809.0-3 Authority

(b) Sections 302,303,601,and 603 of the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701 et seq.) require the Secretary to take any action, by regulation or otherwise, to prevent unnecessary or undue degradation of the Federal Lands, provide for enforcement of those regulations, and direct the Secretary to manage the California Desert Conservation Area under reasonable regulations which will protect the scenic, scientific, and environmental values against undue impairment, and to assure against pollution of streams and waters.

033 31. Definitions for person (3809.0-5(h)), reclamation (3809.0-5(j)), and unnecessary or undue degradation (3809.0-5(k) are all correctly stated in the DEIS. In the instant case, we concur with the beliefs of the Quechans and archeologists that any mining at the proposed site would constitute "undue and/or unnecessary degradation" of resource values which are far more important to the American public than the value of any non-strategic minerals (such as gold) which could be mined from the claimed lands. This interpretation of unnecessary or undue degradation is warranted given the text of various parts of the 43 CFR 3809 regs, including 3809.0-3) and the BLM's CDCA Plan which designates the public lands at

the proposed mine site as Multiple-Use Class L or Limited Use.

034 32. In addition, the EIS omits a critical portion of subsection 3809.1-6 Plan approval related to cultural resource inventory. Relevant text referencing cultural resources states that:

3809.1-6 (c) .... The responsibility for and cost of salvage of cultural resources discovered during the inventory shall be the Federal government's. The responsibility of avoiding adverse impacts on those cultural resources discovered during the inventory shall be the operator's.

3809.2-2 Other requirements for environmental protection.

(e) Cultural and paleontological resources. (1) Operators shall not knowingly disturb, alter, injure, or destroy any scientifically important paleontological remains or any historical or archeological site, structure, building or object on Federal lands.

(2) Operators shall immediately bring to the attention of the authorized officer any cultural and/or paleontological resources that might be altered or destroyed on Federal lands by his/her operations, and shall leave such discovery intact until told to proceed by the authorized officer. The authorized officer shall evaluate the discoveries brought to his/her attention, take action to protect or remove the resource, and allow operations to proceed within 10 working days after notification to the authorized officer of such discovery.

(3) The Federal government shall have the responsibility and bear the cost of investigations and salvage of cultural and paleontology values discovered after a plan of operations has been approved, or where a plan is not involved.

035 33. The extent and significance of archeological and cultural resources on and in the vicinity of the proposed mine is of such magnitude that the responsibility and cost of such cultural resource obligations of the Federal government if the Imperial Project were to be approved could be enormous in both staff time and money, if the resource values could be "salvaged". How does one salvage a trail?

036 34. During the 12/97 BLM consultation discussion with the Quechan Cultural Committee, archeologist Jay VonWerlhof told BLM CA State Director Hastey that it would take at least 20 years of study to understand the relationships between archeological resources and culture and religion associated with the 10,000 year archeological record at the proposed mine site! VonWerlhof said that the site is of such archeological importance that it should not be disturbed for mining. He and other archeologist from the Imperial Valley College have stated that this is an excellent teaching area for archeologists because there is such a rich resource easily accessible and so concentrated.

037 35. Also relevant under Section 3809.3 General provisions is:

3809.3-1 Applicability of State law.

(a) Nothing in this subpart shall be construed to effect a preemption of State laws and regulations relating to conduct of operations or reclamation on Federal lands under the mining laws.

This means that the provisions of CEQA of must be followed.

038 36. In addition to the DEIS statement that Multiple-Use Class L - Limited Use - is "oriented towards giving priority protection to sensitive natural, scenic, ecological and cultural resources while placing limitations on uses that may conflict with or degrade these values" (USDI 1980), (DEIS at 1-13), BLM's 1980 California Desert Conservation Area Plan (CDCA Plan) provides the following statement defining "Multiple-Use Class L".

Multiple-Use Class L (Limited Use) protects sensitive, natural, scenic, ecological, and cultural

resource values. Public lands designated as Class L are managed to provide for generally lower-intensity, carefully controlled multiple use of resources, while ensuring that sensitive values are not significantly diminished. (BLM CDCA Plan at 13.)

039 37. The CDCA Plan discussion of Plan elements notes that within each multiple-use class designation, residual conflicts will occur and that: "The conflicts increase, however, in a Class L - "Limited Use" - designation, where judgement is called for in allowing consumptive uses only up to the point that sensitive natural and cultural values might be degraded." (CDCA Plan at 21.) "Class L would protect sensitive natural scenic, ecological, and cultural resources, while providing for low-intensity multiple use that could be carefully controlled." (CDCA Plan at 159.)

040 38. Open-pit cyanide heap-leach mining in an area never before subjected to mining before cannot, by any stretch of the imagination, be considered as a "generally lower-intensity" use. Hence the requirement that "judgement is called for in allowing consumptive uses only up to the point that sensitive natural and cultural values might be degraded". At the proposed site the only means of "protect[ing] sensitive natural scenic, ecological, and cultural resources" is to deny approval of open pit mining because open-pit mining would not only degrade those values off-site, but also destroy on-site those resource values for which protection is required.

041 39. The DEIS also misleads the reviewers with its assertion that guidelines adopted for implementing the CDCA Plan for Class L lands "recognize that locatable mineral operations are non-discretionary", but that there are certain limitations and restrictions associated with that use. We disagree. Our reading of CDCA Plan Table 1 - Multiple-Use Class Guidelines for mineral exploration and development in Multiple-Use Class L for "Locatable minerals" reveals only that the: "Location of mining claims is nondiscretionary." (CDCA plan at 18.) This is the only sentence in which the word "nondiscretionary" is used with reference to locatable minerals in Class L. (Exhibit B-98.)

042 40. The CDCA Plan Table 1 text makes no statement that approval of a plan of operations is nondiscretionary or that approval of mining operations is nondiscretionary! There is a tremendous difference between "location of mining claims" and "locatable mineral operations"! "Location" suggests a particular site where minerals are found, while "mineral operations" suggests the actual conduct of earth disturbing mining activities to remove those minerals. This is an important distinction, particularly where proposed mining operations would result in the destruction of sensitive and extremely important archeological and cultural resources and where proposed mining operations would result in the destruction of sacred sites and the ability of the Quechan Indian Tribe to use the area for traditional religious purposes.

043 41. We believe that just as there are to be no new mining claims located in designated Wilderness Areas, both BLM (in its CDCA Plan) and Congress (in its Mining regulations) anticipated that there would be some locations (including wilderness) where there would be resource values more important than mining and therefore mining should not be permitted at those locations. Accordingly, the interpretation that only the location of mining claims is nondiscretionary within the California Desert Multiple Use Class L is correct is quite reasonable. Leshy noted that Congress, in its 1872 adoption of the Mining Law, viewed mining as a "treasure hunt" (Leshy 1987:), with no further guarantees, just as the CDCA discussion related to wilderness points out.

42.

044 The United States mining operations of the Company are subject to extensive Federal, state and local laws and regulations governing exploration development and production. In addition such mining operations are subject to inspection and regulation by the Mining Safety and Health Administration of the Department of Labor under provisions of the Federal Mine Safety and Health Act of 1977, which is designed to ensure operational safety and employee health and safety. The United States government also regulates the environmental impact of the mining industry through the Clean Air Act, the Clean Water Act, the Toxic Substances Control Act, the Resource Conservation and Recovery Act of 1976 and the Federal Land Policy and Management Act of 1976. In addition to imposing air quality standards and other pollution controls, the most significant provisions of the above legislation deal with mineral land reclamation and waste discharges from mines, mills and further processing operations. The Company is also subject to extensive health and safety regulations at the state level, as well as legislation and regulations with respect to the environmental impact of its mining operations in the State of California. (GGL 3/98 10-K/A at p. 22.)

43.

045 Compliance with such laws and regulations has increased the costs of planning, designing, drilling, developing, constructing, operating and closing mining operations. It is possible that the costs and delays associated with compliance with such laws and regulations could become such that the Company would not proceed with the development of a project or continue to operate a mine. (GGL 3/98 10-K/A at p. 22.)

"FREE ACCESS" TO MINERALS ON PUBLIC LANDS DOES NOT AUTOMATICALLY CARRY A RIGHT TO DEVELOP MINERAL DEPOSITS REGARDLESS OF OTHER VALUES

046 44. "[T]he statutory embodiment of free access does not automatically, in and of itself, carry with it a right to develop all mineral deposits on federal lands regardless of value, nor does it necessarily justify occupation and purchase of all lands containing minerals." (Leshy 1987, The Mining Law:28.) However, a review of BLM's 1996 book on Mining Law in California, suggests an agency bias toward facilitating mining activity.

047 45. In some instances mineral access to lands has been eliminated, such as in national parks, wilderness areas, wildlife refuges, and other reservations by Congress or by the executive branch under the authority delegated to it by Congress. There have been many changes limiting and modifying the access to minerals on federal lands. And as noted:

> Finally, on all federal land today, access, mineral exploration, and development are subject to substantial governmental control through a host of statutes and regulations. These limit access by a variety of means, among them: (1) the imposition on Mining Law activities of new, comprehensive, environmentally oriented regulatory structures created by the likes of the Clean Air and Clean Water acts; (2) the incorporation of environmental protection measures into new requirements for advance governmental approval of exploration and mining plans; and (3) requirements to consider other resource values in determining whether and how lands are to be made open to operation of the Mining Law, as in withdrawals, withdrawal revocations, and designation of areas of special environmental concern (such as critical habitat for endangered species and the like). (emphasis added, Leshy 1987:28-29.)

CHANGED VALUES AND WITHDRAWAL AS A TOOL FOR PROTECTION OF NONMINERAL

RESOURCE VALUES

048 46. Changes in the access to develop minerals on federal lands reflects a "balancing of mineral values with the other values of these lands" and in some other cases, it reflects "a different judgement about the best way to develop minerals to serve the larger national interest" and in part reflect another qualifier in the 1872 Mining Law which states "Except as otherwise provided". (Leshy 1987:29.) National Parks and Wilderness Areas are among the areas set aside by Congress to preserve the natural beauty, recreational, and scientific interest from mining activity. In addition "many national monuments have been created by the president under the authority granted by Congress in the Antiquities Act of 1906." (Leshy 1987:30.) Later many of the national monuments became national parks.

049 47 Considering the stated archeological, cultural and religious importance of the area proposed for the Imperial Project, in light of these non-mineral resource values, might it not be more appropriate to either withdraw the area from mineral entry and expand the designation of the Indian Pass Area of Critical Environmental Concern or designate the area of Traditional Cultural Properties as a new National Monument with the express purpose of protecting such resources for future generations? Another option cited by Leshy for consideration to protect the identified non-mineral resource values of the land is "executive branch withdrawal". Withdrawal from mineral entry is absolutely essential if the nonmineral resource values including archeological resources/cultural resources and sacred geography for the Quechan Nation are to be protected for present and future generations of all Americans.

DRAFT EIS/EIR SECTION 1.6 MISREPRESENTS APPLICABLE FEDERAL LAW (FLPMA SECTION 601) AND REQUIREMENTS SPELLED OUT IN BLM'S ADOPTED CALIFORNIA DESERT CONSERVATION AREA PLAN AND THE FINAL EIS FOR THE CDCA PLAN.

050 48 Draft EIS Section 1.6 Principal Agency Policies and Authorizing Actions as relates to the Bureau of Land Management at Section 1.6.1 is misleading because when it references FLPMA it refers to Section 302 but fails to make reference to Section 601. FLPMA Section 601 refers to the California Desert Conservation Area. FLPMA Section 601 is included as text in the Final Environmental Impact Statement (FLPMA) for the California Desert Conservation Area Plan of 1980 (CDCA Plan).

> Section 601 (a) the Congress finds that -- --
>
> (1) the California desert contains historical, scenic, archeological, environmental, biological, cultural, scientific, educational, recreational, and economic resources that are uniquely located adjacent to an area of large population.
>
> (2) the California Desert environment is a total ecosystem that is extremely fragile, easily scarred, and slowly healed;
>
> (6) to ensure further study of the relationship of man and the California Desert environment, preserve the unique and irreplaceable resources, including archeological values, and conserve the use of the economic resources of the California Desert, the public must be provided more opportunity to participate in such planning and management, and additional management authority must be provided to the Secretary to facilitate effective implementation of such planning and management.

(f) Subject to valid existing rights, nothing in this Act shall affect the applicability of the United States mining laws on the public lands within the California Desert Conservation Area except that all mining claims located on public lands within the California Desert Conservation Area shall be subject to such reasonable regulations as the Secretary may prescribe to effectuate the purposes of this Section. Any patent issued on any such mining claim shall recite this limitation and continue to be subject to such regulations. Such regulations shall provide for such measures as may be reasonable to protect the scenic, scientific, and environmental values of the public lands of the California Desert Conservation Area against undue impairment, and to ensure against pollution of the streams and waters within the California Desert Conservation Area. (FLPMA Section 601.)

051 49. The Draft EIS/EIR Section 1.6.1 is misleading because it fails to make reference to FLPMA Section 601 which relates to the California Desert Conservation Area. As noted above Section 601 (f) relates specifically to "valid existing rights" for mining as they existed in 1976 when FLPMA was enacted by Congress. FLPMA predates the CDCA Plan approval by four years. And FLPMA also predates almost all of the mining claims in the Indian Pass Road area. This is particularly important, because it means that development proposed after passage of FLPMA within the California Desert Conservation area is subject to different regulations and different resource protections than development proposed elsewhere on public lands within the western United States or on lands within the same general vicinity but filed and developed before the passage of FLPMA in 1976 and approval of the CDCA Plan in 1980. For the mining claims along the Indian Pass Road, the microfiches on file in the BLM El Centro Resource Area office reveal that most if not all of the mining claims in the area were filed after passage of FLPMA. Also, the proposed plan of operations was clearly submitted after 1980. Therefore, we conclude that this proposed mining operation must be held to a higher standard than would have been required for other proposed open pit mines in the western United States where regulations and the special protections identified in the CDCA Plan are not in effect. The BLM El Centro Resource Area did indeed apply this higher standard when it made its decision in 1988 to deny the Price/Thomas mining plan of operations for the Peg Leg's Other Leg mining claims (CAMC 167520 through 167527). (116 IBLA 210 (1990).) (See exhibit F-98.) That IBLA decision is important in consideration of the proposed Imperial Project because the mining claims for Peg Leg's Other Leg include Section 29 in Township 13 South, Range 21 East. Section 29 is immediately adjacent to Section 32 of Township 13 South, Range 21 East which is included in the proposed Imperial Project.

TEXT OF BLM'S 1980 FINAL ENVIRONMENTAL IMPACT STATEMENT AND PROPOSED PLAN FOR THE CALIFORNIA DESERT CONSERVATION AREA WHICH IS APPLICABLE TO MINING WITHIN MULTIPLE USE CLASS L

052 50. Quotations from the 1980 Final Environmental Impact Statement and Proposed Plan for the California Desert Conservation Area which are applicable to mining within Class L in the CDCA Plan follow. Direct quotations from the 1980 Final EIS and Proposed Plan for the CDCA and the associated Technical Appendices are included in these comments to provide information for decision makers and the public because the Final EIS and Technical Appendices to the 1980 CDCA Plan are out of print and not readily available for public review. Much information included in these documents was not included in the 1/2 inch thick 1980 CDCA Plan but is deemed to be extremely important in terms a review of the Draft EIS/EIR for the Imperial Project.

B. Impacts of Proposed Planning Comparative Analysis

1. Air quality
Positive actions contributing to the maintenance of high-quality air standards will include the recommendation of areas suitable for Wilderness designation, and ACECs and Class L Management. These Management actions decreased the potential for the production of pollutants by limiting and prohibiting development and consumptive uses. (CDCA Final EIS p. E-48.)

2. Water resources
Impacts from mining and energy development will be extremely limited because the majority of mining activities in the Desert employ closed-loop processing systems with an annual water consumption rate of only one to two acre-feet per facility, per year. [This is a far cry from Imperial Project's proposed use of 1200 acre-ft./year of groundwater.] Surface water, employed by many existing facilities, is predominantly acquired, from the Colorado River aquaduct and CA State water project. Since most mineral processing and potential energy development facilities require water with relatively low levels of dissolved solids, it is anticipated that imported water sources will be employed in future development of such facilities. The proposed plan should not have a significant adverse impact on groundwater resources. (CDCA Plan Final EIS at p. E-49.)

3. Soils
It is estimated that only 25,000 additional acres of public lands in the CDCA will be disturbed by mineral exploration and development to the year 2000. This amount is a cumulative total of all mining operations expected to occur throughout the CDCA. Specific areas of soil disturbance will range from less than one acre, in the case of exploratory drill site, to several thousand acres, in the case of an open pit mine. The location and number of future mines has not been predicted; however, a total of approximately 37,000 acres have been disturbed to date by mining, including open pit operations (13,385 acres), underground operations (1,249 acres), solution mining (9,525 acres), and gravel extraction (6,688 acres). An additional 16 percent of the total is associated with small mines and roads. (CDCA Plan Final EIS at p. E-50.)

Total adverse impacts related to mining will be similar in all alternatives. However, the pattern of mining and associated impacts will vary according to the distribution of Class C and, to a lesser extent, Class L areas. (CDCA Plan Final EIS at p. E-50.)

6. Wildlife
All federally listed species require a "no adverse impact" by proposed actions [mineral exploration and development]. Special stipulations are adequate to insure this requirement. (CDCA Plan Final EIS at p. E-56.)

7. Cultural Resources
Mining activities and their potential adverse impact on cultural and paleontological resources will be closely regulated. Regulations pertaining to the surface management of public claims (43 CFR or 3809) provide guidelines for inventory, protection, and mitigation of impacts on sensitive natural and cultural resources in all instances of surface disturbing activity. Under the proposed plan less than 1 percent of the lands in the CDCA will be affected by mining activity. In all cases, project-specific inventory and protection/mitigation measures will be applied. (CDCA Plan Final EIS at p. E-60.)

Comparable figures [for ACECs incorporating management for cultural resource values] under the

proposed Plan are 47 [ACECs for cultural resource values] and four ACECs [for paleontological resources], respectively. Additionally in considering CDCA and special areas, the proposed plan includes consideration of public lands around ACECs. The majority of recommended ACECs not accepted for the proposed plan fall within Multiple-Use Classes C and L, thus providing protection for cultural and paleontological values. (CDCA Plan Final EIS at p. E-62).

8. Native American Values
Proposed Plan Action will affect both traditionally significant natural and cultural resources of Native American value and the formal relationship between the BLM and Reservation governments.

Impacts to Native American values from the proposed Plan will affect not only physical resources but also, in some cases, adversely affect resources of spiritual value with little or no associated physical destruction. (CDCA Plan Final EIS at p. E-62.)

The net impact of allowable activities can only be accurately assessed by Native American elders and traditionalists. Categorically, however, several dimensions of impacts may be foreseen. Many public land areas of the California Desert continue to be employed for ongoing use by Native Americans. Any deterioration of the resource base or restrictions of current Native American access will be an impact. (CDCA Plan Final EIS at p. E-63.)

Ritual and religious resources are subject to both physical destruction and desecration or sacrilege. While the former impact is empirically verifiable, the latter affects subjective spiritual values. Even where no physical onsite disturbance occurs, there may be an ideological "impact". These impacts are intangible and have been summarized based on available data. (CDCA Plan Final EIS at p. E-63.)

Under the Proposed Plan a majority of identified Native American resource values would be protected through Multiple-use class and special implementation guidelines.

The Proposed Plan contains programmatic guidelines for the protection of Native American Heritage values which were developed with Native American groups to enhance protection and management and reduce adverse effects. These guidelines specifically provide for the protection of sensitive site data and provide procedures for the systematic inclusion of traditional Native American concerns in Bureau actions. The net effect of the proposed plan on Native American values and adjacent reservation land management will be positive. (CDCA Plan Final EIS at p. E-63)

Under the Balanced Alternative approximately 79 percent of identified sensitive resource values would occur within Classes C or L. Although specific impact concerns vary among the Native American groups, many highly sensitive areas and site specific resources could be protected under this alternative to the Class guidelines implemented in conjunction with regional management programs. Some areas of traditional heritage values and religious significance do not fall within the objective land-use classifications in the Balanced Alternative and would be subject to deterioration or loss without special management action. (CDCA Plan Final EIS at p. E-63.)

Major potential impacts can be anticipated from relatively relaxed guidelines for recreational,

grazing, mining, and utility activities permitted in Class M. Many of these impacts may be avoided by careful management, inventory and permitting guidelines. Such potential impacting activities would, in many cases, be allowed in Class M, but could be directed to specific sites where effects would be minimal. (CDCA Plan Final EIS at p. E-63 and E-64.)

The proposed Plan falls between the balanced and protection alternatives relative to the identified resources occurring within Classes C and L. However, additional direct protection of Native American values will be implemented in policy actions. Heritage and government coordination issues identified by the Native American community are directly addressed in the proposed plan. Several Policy and program agreements have been developed specifically for the CDCA..... The proposed action should reduce adverse impacts on sensitive resources of Native American value and contribute to the increased protection of heritage values. (Emphasis added, CDCA Plan Final EIS at p. E-64.)

9. Visual resources
Vehicle use and ORV activity will be greatly controlled in the Proposed Plan by limiting use in Class L to approved routes of travel and avoiding Road designation Class M.

Surface disturbing activities associated with mineral exploration and development have potential for seriously degrading scenic quality. Although the extent of actual development may be small, development has the potential to influence the overall landscape. (CDCA Plan Final EIS at p. E-64.)

15. Mineral exploration and development.
Impact analysis. The basis for analyzing impacts is the number of acres of land with mineral potential which would be affected by the restrictions of multiple use Classes C and L.

Mineral development, or actual mining, is confined to a small area, but has a high impact on local area around the site of extraction.

An overriding factor on the impacts to mining exploration and development is the new regulations controlling surface management. These will place controls on mining based on total resource management regardless of which alternative is chosen.

However, access to public lands open to mineral entry under the General Mining Law of 1872 is still here indeed, subject to reasonable mitigation to prevent undue degradation of the public lands. (CDCA Plan Final EIS at p. E-79, emphasis in original.)

Laws and regulations protecting wildlife also affect mineral exploration and development. Delays will certainly occur in approving plans of operations while wildlife concerns of ACECs and mitigation of habitat impacts are developed. In extreme cases, such as operations occurring in identified critical habitat of Federal or State-listed species, a denial of a mining Plan may be issued. It is anticipated that this will be a rare event as, with proper planning, design and reclamation, the impacts from access to critical habitat can be mitigated to an acceptable level of surface disturbance, and the area of critical habitat is very small compared to the total land area in the CDCA. (CDCA Plan Final EIS at p. E-80.)

New regulations (43 CFR 3802 and 3809) have also placed locatable mineral operations under the protection provision for cultural resources. This will affect some mineral exploration activities as cultural resource inventories and approved mitigation plans must be placed in plans of operation before these operations can proceed. Section 106 compliance procedures for cultural resources and regulations under 35 CFR 800 will also apply to mineral exploration activity.

053 51. [Were the Quechans or local archeologists given adequate notice and opportunity for input during the review and consideration of exploratory drilling for the Indian Rose/Imperial Project? The BLM ECRA mining claims case file suggests no consultation with the Quechan or non-BLM archeologists because no letters referring to even notice were found during our review of the BLM file.]

Mining development will suffer delays in approval of plans of operation due to assuring compliance with these regulations; no long-term adverse impacts are foreseen.

Class L will limit the activities of the small miner due to the financial burdens imposed by the extensive mitigation requirements of Class L as compared to Classes M and I. For a more detailed analysis of the socioeconomic consequences of this alternative the reader is referred to the socioeconomic part of this Section.

The principal differences between alternatives for minerals rests with the amount of acres available for development of locatable, leasable and salable minerals under multiple use classes, and acres where development would likely be restricted by environmental constraints to meet the multiple use Class requirements..... The balanced and proposed alternatives have assigned between 58 and 66 percent, respectively, of the public lands to multiple use Classes C and L.

Other constraints such as rare and endangered species, cultural resources and water and air quality apply to all mineral development on all public lands, regardless of the multiple use Class involved. (CDCA Plan Final EIS at p. E-80 .)

The Balanced Alternative and Proposed Plan will effect the viability of mining in classes C and L, but the overall effect will be moderate constraint.

Generally, unless Congress dictates otherwise, Class C will be closed to non-grandfathered mineral activity and Class L will require heavy mitigation requirements compared to Classes M or I. (CDCA Plan Final EIS at p. E-81.)

Mineral development would be similarly constrained and subject to regulation and stipulations to protect sensitive natural values. (CDCA Plan Final EIS at p. E-88.)

CDCA FEIS Response to general public comments

5. Mineral exploration and development

Proposed Plan response

1. New regulations -- the Multiple Use Class guidelines have been modified in accordance with the provisions of the new mining regulation 43 CFR 3809. The emphasis, however, is to ensure

the highest level of protection to sensitive resources in Class L. (CDCA Plan Final EIS at p. E-93.)

FLPMA SECTION 103 RE RELATIVE RESOURCE VALUES

054 52. From the above direct quotations from the CDCA Plan Final EIS and Proposed Plan, it is quite obvious that the Bureau of Land Management fully intended to place strict limitations on mining activity within the California Desert on lands designated Class L. The proposed Imperial Project is located on land designated as Class L, and therefore, is subject to strict limitations. The Final EIS for the CDCA Plan presents a very different picture of mining on public lands designated Class L from that presented in the Imperial Project Draft EIS/EIR. FLPMA Section 601, the CDCA Plan, and the CDCA Final EIS create a very different picture of mining rights in California Desert and other than Section 302 of FLPMA and BLM is 43 CFR 3809.0-6 cited in the Imperial Project Draft EIS/EIR at p. 1-12. 43 CFR 3809.0-6 simply ignores the special requirements for the California Desert Conservation Area. The Draft EIS must be corrected to accurately reflect the intent of BLM in its documents designating the California Desert Conservation Area.

Section 601 of FLPMA requires that BLM develop a plan to "... Provide for the immediate and future protection and administration of the public lands in the California Desert within the framework of a program of multiple use and sustained yield, and the maintenance of environmental quality."

Section 601 of FLPMA is reproduced in its entirety in the references Section of [the CDCA Plan Final EIS]. Section 103 of FLPMA defines the terms "multiple use" and "sustained yield" as the follows:

"The term 'multiple use' means the management of the public lands and their various resources values so that they are utilized in the combination that will best meet present and future needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; the use of some land for less than all of the resources; a combination of balanced and diverse resource uses that takes into account the long-term needs of future generations for renewable and nonrenewable resources, including, but not limited to, recreation, range, timber, minerals, watershed, wildlife and fish, and natural scenic, scientific and historical values; and harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output."

"The term 'sustained yield' means the achievement and maintenance in perpetuity of a high level annual or regular periodic output of the various renewable resources of the public lands consistent with multiple use."

So, multiple use, sustained yield and the overall maintenance of environmental quality are the context for CDCA management, and all other public land management laws must be viewed within this context, including the following:
-- Mining Law of 1872

other federal laws are also included in the list. (CDCA Plan Final EIS at p. E-1.)

055 53. Once again this is a very different interpretation of BLM's management responsibilities related to mining in the California Desert than is presented in the Imperial Project Draft EIS/EIR. Of particular interest is the text of FLPMA Section 103 which mandates that when BLM is making decisions related to conflicting land uses: "consideration be given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output." This was indeed the nature of the decision that the BLM El Centro Resource Area made for the proposed plan of operations for Peg Leg's Other Leg. The decision was upheld by the IBLA (Exhibit F-98) and is discussed elsewhere in these comments.

CDCA PLAN EIS APPENDIX VOL. D: NATIVE AMERICAN VALUES AND CULTURAL RESOURCES

056 54. The CDCA Plan Final EIS Appendix Volume D Part 3 p. 102 through 104 includes important discussion of traditional Native American values. This text is incorporated as Exhibit Z-98. P. 104 makes the following statement:

> Although Native Americans express reverence toward the total environment, certain areas are considered holy or sacred. Generation upon generation have orally recounted origin myths and other oral narratives which validate the group and enumerate the sacred places. The places where religious events have occurred, where spiritual beings dwell, or traditional burial grounds are, are counted as particularly sacred. Special behavioral rules are appropriate; reverential conduct is expected here as with most other religions. Inappropriate behavior may result in desecration, some types of which may have consequences to the individual, group, clan, tribe or humankind as a whole. For this reason, and from long historical experience, Native American religions have sanctions against divulging information about ceremonies, traditional rites, and sacred sites. History and past experience have demonstrated to Native Americans that a policy of secrecy has been one of the few effective means of protecting and preserving both their religious practices and the sacred areas left to them.

057 55. The CDCA Plan Final EIS Appendix Volume D. Part 2 (p. 98) includes a Memorandum of Understanding pertaining to BLM California policy for Native American concerns and cultural resource management. Among the provisions are: "j.) The Bureau will allow Native American free access to sites of religious and ceremonial significance."

058 56. Additionally, part of the cultural resource policy of the Bureau includes the following objectives:
a) Protect and preserve representative samples of the full array of cultural resources for the benefit of scientific and socio--cultural used by present and future generations.
b) Ensure that cultural resources are given full consideration in all land-use planning and Management decisions.
c) Manage cultural resources so that scientific and socio- cultural values are not diminished but rather maintained an enhanced.
d) Ensure that the Bureau's undertakings avoid inadvertent damage to cultural resources, both Federal and non-Federal." (CDCA Plan Final EIS Appendix Volume D at p.99.)

BLM ECRA AND BLM CA STATE DIRECTOR HAVE REJECTED A PLAN OF OPERATIONS ON

05957. To serve its purpose as an informational document, the DEIS/R should include a discussion of locations and resource considerations which would preclude mining activities on BLM managed public lands. Why doesn't the DEIS inform the reader that BLM does not guarantee approval Plans of Operation for all mining claims on all public lands? BLM ECRA should be well aware that not all Plans of Operation must be approved because BLM ECRA has denied Plans of Operation for mining claims in the past. One such BLM denial resulted in an IBLA decision upholding the BLM ECRA Record of Decision for "Peg Leg's Other Leg" claims. (116 IBLA 210. Price and Thomas (1990).) (Exhibit F-98.)

06058. Although the Price and Thomas case involved mining claims on Class C land that was adjacent to what was then a Wilderness Study Area, and adjacent to the proposed project, many statements in the IBLA decision are relevant to the Proposed Imperial Project. The Price/Thomas IBLA found that:

> When BLM rejects a plan of operations affecting lands in the California Desert Conservation Area because the proposed activity will result in unnecessary or undue degradation of the selected lands, and will result in the undue impairment of the scenic, scientific, and environmental values of those lands, the question on review is whether the decision was reasonable and is supported by the record. If so, absent some showing of error by the appellant, the decision will be affirmed. (116 IBLA 210.)

06159 IBLA did not state that BLM's ability to reject a plan of operations was restricted to only wilderness lands or only to wilderness study areas. IBLA went on to explain that:

> Under 43 CFR 3809.0-5(k), a plan of operations must take "into consideration the effects of operations on other resources and land uses, including those resources and uses outside the area of operations" (emphasis added [by IBLA]). Furthermore, a plan of operations affecting lands in the CDCA must take into consideration the specific objectives of section 601(f) of FLPMA, i.e., protecting the scenic, scientific, and environmental values of the affected lands against undue impairment, and to assure against pollution of affected streams and waters. As promulgated by BLM, the general standard contained in the definition of "unnecessary or undue degradation" is to be applied to CDCA lands in accordance with the imperatives of section 601 (f) of FLPMA. (116 IBLA 210, 218-219.)

06260. IBLA noted that:

In his December 2, 1987 decision, the California State Director, BLM, affirmed the Area Manager's rejection of the applicant's mining plan. He based his decision upon the following facts and findings:

> 1. The proposed project is located within the California Desert District Conservation Area (CDCA). This area is given special recognition by Congress in Section 601 of the Federal Land Policy and Management Act and requires special management attention.
>
> 2. The CDCA is being managed under the guidelines of the CDCA Plan, approved in 1980 by the Secretary of the Interior.
>
> 3. ....
>
> 4. The proposed Plan of Operations would cause substantial adverse visual impacts from

mining, road building, and related activity due to removal of vegetation, disturbance of topsoil, and disruption of the natural contours of the land.

5. ....

Congress established a special standard of protection for the lands of the CDCA. (116 IBLA 210, 213.)

063 61. These general statements of the BLM State Director are as relevant to review of a Plan of Operations (for the Imperial Project) in Class L lands immediately adjacent to one of the Price/Thomas sections of claimed lands in 116 IBLA 210 because both proposed plans of operations are located within the CDCA and both require consideration of other resource values. (Township 13 South, Range 21 East, Section 29 included in the Price/Thomas IBLA decision is located adjacent to Section 32 of the proposed Imperial Project.) Indeed, by emphasizing visual resource values, it certainly appears that BLM CA State Director concurred in his rejection of the plan of operations in part on a the impact on other resource values. 116 IBLA 210 contains much discussion of BLM ECRA's emphasis on visual resources in its decision to reject the plan of operations.

064 62. The following BLM reasoning was cited by IBLA in upholding the BLM decision to deny a plan of operations:

> While lands outside WSAs are not subject to the nonimpairment standard of the IMP [Interim Management Policy and guidelines for Lands Under Wilderness Review Chapter I.A.5.], 3809 regulations direct that the effects of proposed operations on resources and uses outside the area of operations be considered in the determination of unnecessary or undue degradation. (116 IBLA 219.)

065 63. Why then does the Imperial Project DEIS contain no discussion of those regulations or circumstances in which mining activities are not permitted on BLM managed lands? To serve as an informational document for decision-makers under both NEPA and CEQA, the EIS/EIR must be revised to include all relevant text related to FLPMA's special protections for the CDCA, and include the relevant text from CDCA documents cited herein.

DRAFT EIS/EIR IS ALSO INADEQUATE UNDER CEQA

066 64. In many respects, the Draft EIS/EIR for the proposed Imperial project is not consistent with the legislative intent or judicial interpretation of that intent as spelled out in CEQA Guidelines secs 15002(a)(1) and 15003(a),(b), (c),(d), and (e)! These include:

> 15002 (a) Basic Purposes of CEQA. The basic purposes of CEQA are to:
> (1) Inform governmental decision-makers and the public about potential, significant environmental effects of proposed activities.
>
> 15003.In addition to the policies declared by the Legislature concerning environmental protection and administration of CEQA in Sections 21000,21001,21002, and 21002.1 of the Public Resources Code, the courts of this state have declared the following policies to be implicit in CEQA:
> (a) The EIR requirement is the heart-of CEQA. (County of Inyo v. Yorty, 32 Cal. App. 3d 795.)
> (b) The EIR serves not only to protect the environment but also to demonstrate to the public that it

is being protected. (County of Inyo v. Yorty, 32 Cal. App. 3d 795.)
(c) the EIR is to inform other government agencies and the public generally of the environmental impact of a proposed project. (No Oil, Inc. v. City of Los Angeles, 13 Cal. 3d 68.)
(d) The EIR is to demonstrate to an apprehensive citizenry that the agency has, in fact, analyzed and considered the ecological implications of its action. (People ex rel. Department of Public Works v. Bosio, 47 Cal. App. 3d 495.)
(e) The EIR process will enable the public to determine the environmental and economic values of their elected and appointed officials thus allowing for appropriate action come election day should a majority of the voters disagree. (People v. County of Kern, 39 Cal. App. 3d 830.)
(f) CEQA was intended to be interpreted in such manner as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language. (Friends of Mammoth v. Board of Supervisors, 8 Cal. 3d 247.)

Note: Authority cited: Sections 21083 and 21087, Public Resources Code; Reference: Sections 21000-21177, Public Resources Code.

06765. Later discussions will include specific reference to failure to accurately and adequately discuss cumulative impacts of proposed open-pit mine in Indian Pass Road.

CHANGES TO UPDATED IMPERIAL COUNTY ZONING ORDINANCE CANNOT BE IGNORED

06866. For purposes of County decision making, EIS/EIR should include text of the Zoning Ordinance Update for Conditional Use Permits which was submitted to and recommended for approval by the Imperial County Planning Commission on 1/14/98. Text of new Zoning Ordinance update re Conditional Use Permits must be considered because old zoning and old zoning ordinance are inconsistent with relevant text of 1993 general plan update.

06967. The proposed water well(s) for the proposed cyanide heap-leach open-pit gold mine on the Indian Pass Road does not pass the minimum standards for the grant of a Conditional Use Permit under the new Zoning Ordinance Update Sections 90302.9 or 90303.10 submitted to and recommended for approval by the Imperial County Planning Commission on 1/14/98. The new text follows:

90203.09 ACTION ON A CONDITIONAL USE PERMIT

An application for a Conditional Use Permit shall be reviewed, and approved, conditionally approved, or denied by the decision making authority.

The authority may approve or conditionally approve an application only if it finds all of the following:

A) The proposed use is consistent with the goals and policies of the adopted County General Plan.

B) The proposed use is consistent with the purpose of the zone or sub-zone within which the use will be located.

C) The proposed use is listed as a use within the zone or sub-zone or is found to be similar to a listed conditional use according to the procedures of Section 90203.10.

D) The proposed use meets the minimum requirements of this Title applicable to the use and complies with all applicable laws, ordinances and regulations of the County of Imperial and the State of California.

E) The proposed use will not be detrimental to the health, safety, and welfare of the public or to the property and residents in the vicinity.

F) The proposed use does not violate any other law or ordinance.
G) The proposed use is not granting a special privilege.

07068. The decision making authority shall deny an application if it cannot make all of the above findings.

90203.10 SIMILARITY IN USE(S)
When an applicant proposes a use that is not specifically authorized or listed as a use or conditional use in the specific zone, he/she may apply for a determination of similar use to the Planning Commission through the following procedure. (The Planning Commission shall have final authority and no appeal to the Board on "similarity" shall be allowed).
A) FILING:
A request for a "similar use" determination shall be in writing to the Planning/Building Department and shall explain in detail the proposed use and its similarity to an existing approved use with that zone.
B) APPLICATION HEARING:
A request for similar use consideration shall not be heard concurrently with the hearing for allowing the use. At a minimum, the similar use hearing by the Planning Commission shall occur at least one hearing prior to the hearing to allow/deny the use.

C) SIMILAR USE CRITERIA:
In order for the Planning Commission to allow a use to be a "similar use" it shall first make the following findings:
1) The proposed use resembles or is of the same basic nature as an identified use or a conditional use in that zone.
2) The proposed use includes activities, equipment, or materials typically employed in the identified use.
3) The proposed use has equal to or less impacts on traffic, noise, dust, odor, vibration and appearance than the identified listed use.
4) All impacts identified could and would be mitigated through conditions.
5) The "similar" use, if allowed in the proposed zone, will not affect the health, safety and welfare of the public or impact the property and residents in the vicinity.

D) NON-COMPARISON OF SIMILAR USE:
An application for similar use shall be a comparison of the proposed use against that of an identified listed use in the Zone or Sub-Zone. The Commission shall not compare a proposed "similar use" against another previously approved "similar" use.

E) CONTINUED USE:
Once a use has been found to be "similar" by the Commission, it shall be listed as such by the Department within the applicable zoning division of this Title and may be used by other applicants.

F) CEQA EXEMPTION:
The determination of similar use shall be a ministerial action and shall not require CEQA documentation.

07169. In this case, the grant of a CUP would or could result in initiation of open-pit mining operations on

land held sacred by the Quechan and essential to their religion. Operation of such a mine would have serious adverse impacts on the Quechan ability to practice their religion and would thereby adversely affect the health and welfare of the Quechan tribal members at the Fort Yuma Reservation in SE Imperial County. The Draft EIS/EIR leaves no doubt about the significance of the area to the Quechan and their religion. The Imperial County ordinance related to water wells includes the requirement that: "the enforcement agency shall deny any application for a permit [for a water well] if, in its judgment, issuance of a permit is not in the public interest" (Imperial County codified ordinances Section No. 56355. Permit denial. How could the Planning Commission or the Board of Supervisors make a determination that destroying an area that is essential to the Quechan religious practices and beliefs and the maintenance of their culture is in the public interest? Clearly, such significant adverse impacts are not in the public interest, not for the Quechan and not for America. Accordingly, the County of Imperial should not issue a Conditional Use Permit for a water well or wells, when the use to which that water will be put will result in the destruction of religion and culture to residents of the Fort Yuma Reservation in Imperial County.

INFORMATION IN BOTH DRAFT EIS/EIRs IS INCONSISTENT WITH GLAMIS GOLD WEBSITE INFO AND INCONSISTENT WITH EACH OTHER

072 70. Information in the Draft EIS/EIR for the Imperial Project is inconsistent with the information presented by Glamis Gold Limited to its shareholders and the public and its news release for May 6,1996. (Exhibit Y-98.) The news release indicates that the mine life is expected to be approximately 12 years. However, the Draft EIS/EIR at p. 1-1 indicates a 19 year operation life, and Draft EIS/EIR AT P. 4-109 suggests a 20 year operation life with reclamation activities possibly continuing beyond that period. Why does the Draft EIS/EIR state a proposed project life seven years longer than the information that was provided in the news release? Is a longer proposed project life an attempt to convince County decision-makers that there is greater potential economic benefit to the County by having a Project of 19 years rather than 12 years, or is it really the project applicant's way of stating that it expects to expand the operation after a few years? What is the explanation?

073 71. Both the 11/96 Draft EIS/EIR and 11/97 Draft EIS/EIR state that up to 150 million tons of ore would be mined and deposited on the leach pad. Both documents indicate a 19 year Project life, operations seven days per week, and a daily mining rate of typically 130,000 tons per day. However, the 11/96 Draft EIS/EIR at p. 2-13 states that up to 450 million tons of waste rock would be mined and placed on to the waste rock stock piles. By contrast the 11/97 Draft EIS/EIR at p. 2-13 states that only up to 300 million tons of waste rock would be mined and placed on the waste rock stock piles or into the previously mined to open pits. Thus, based on information in the 11/97 Draft EIS/EIR, the amount of waste rock to be moved in order to mine the same amount of ore has been reduced by one-third or by 150 million tons. What is the explanation for this very significant decrease in the projected amount of waste rock to be mined? There are only slight changes in the configuration of the West Pit, the East Pit, and the Singer Pit in figures S-3. Were earlier Engineering projections wrong? Alternatively, has the revised Draft EIS/EIR reduced the amount of waste rock anticipated to be mined in order to make the impacts of the proposed project appear to be less in terms of environmental impacts?

074 72. The 11/97 Draft EIS/EIR Figure 2.4 "Imperial Project mine and process area projected final contours" and Figure 2.5 "Imperial Project mine and process area and vicinity-projected final contours" incorrectly depict the East Pit as an area of topographic relief, rather than as a deep pit because standard topographic symbols are not used in the figures. By using a magnifying glass, it appears that the East Pit

reaches the depth of 60 feet below sea level and therefore the projected final contours reveal that no backfilling is intended.

SECTION 2.1.3 MINING

BACKFILLING OF THE WEST PIT AND THE SINGER PIT ARE PROPOSALS ONLY, NOT NECESSARILY REQUIREMENTS OR GUARANTEES

075 73. All reclamation requirements under BLM's new rule mandate that mitigation requirements must be fully bonded to cover costs of implementation by BLM or a third party contractor.

076 74. In spite of numerous places in the Draft EIS/EIR (e.g. at p. 2-11) where it states that the West Pit and Singer Pit will be backfilled, text at p. 4-13, 4-48, and 4-55 suggest that there are neither strict requirements nor guarantees for such backfilling. In fact the Draft EIS/EIR contains the following statements:

> Both the West Pit and the Singer Pit are proposed to be completely backfilled under the Proposed Action. However, if mining is suspended or terminated prior to backfilling of the West Pit above the groundwater level, it is possible, but not probable, that a pit lake could form in the West Pit. Also, if mining is suspended or terminated prior to complete backfilling of either the West Pit or the Singer Pit, formation of localized moist areas, seasonal seeps, or ephemeral, localized ponds from groundwater inflow (for the West Pit only), precipitation, or surface water runon remains a possibility. (Draft EIS/EIR at p. 4-13.)

From this text, it is quite apparent that there is no truly mandatory requirement for complete backfilling of either the West Pit or the Singer Pit if mining is either temporarily or permanently stopped prior to the planned end of the life of the mine. This is contrary to the discussion about backfilling of the West Pit and Singer Pit as described at Draft EIS/EIR pp. 2-3, 2-7, 2-13, and 2-33. Does the text at P. 4-13 and elsewhere serve as a loophole for the mining company and serve to encourage operations to cease prior to the requirement for any backfilling?

THE QUESTION OF POTENTIAL VALUABLE MINERALIZATION

077 75. The EIS/EIR at p. 4-4 states that as a result of condemnation drilling by Glamis Imperial geologists, valuable mineral resources "do not exist in the areas of the proposed heap pad, waste rock stockpile, and the process and ancillary facilities. Therefore, no potential valuable mineralization would be buried by the placement of those facilities in these areas." Why then does the project applicant continue to make annual assessment payments for lode claims on mining claims which appear when mapped to underlie the proposed leach pad site and at waste rock stockpile sites, and indeed all other proposed project facilities? If the applicant is paying to maintain these claims as lode claims for valuable mineral deposits, but then states in the EIS/EIR that there is no potentially valuable mineralization on these claims, or at least some of these claims, what does this say about the potential validity of the hundreds of other paid-up mining claims held by the project applicant? Indeed, what does this say about the potential validity of the lode claims that include the sites of the proposed open pits for this proposed project?

078 76. The statement that partially backfilling the East Pit would not reduce the economic value of the mineralization and that it would only slightly increase cost of mining materials at the bottom of the East Pit

in the future raises serious questions about the assertion that complete backfilling is not economically feasible. What quantitative analysis is available to justify the assertion that complete backfilling is not economically feasible? A curious question, because BLM has no mandate to approve a Plan of Operations to ensure profitibility of mining in the CDCA or elsewhere.

COMPLETE BACKFILL QUESTIONS

079 77. Chemgold's 10/91 Final SEIR (at pp. 3-11, -12,3-13) discussion of complete pit backfilling raises serious questions about the credibility that should be accorded to the applicant's assertion of quantity and quality of known gold resources in the vicinity of the mined open pits, and any asserted justification for failure to completely backfill mined out pits. In that 10/91 document Chemgold asserted that: "Complete pit backfilling could be in conflict with objectives of Federal and State mining statutes, if additional minerals could be extracted from the pit walls." The text later states that:

> Mineralization in the walls on the floor of the pit will contain gold in concentrations which are uneconomic to mine at the current gold price. Future improvements in technology (or lower unit costs that might be achieved with improved technology) and/or a higher gold price, however, would allow the operator to mine these areas and increase the ultimate recovery of the resource. Backfilling could preclude future recovery of this mineralization in the mine pits. Based upon these considerations, it is expected that the potential loss of mineral resources and economic disadvantages of complete backfilling for this project would be greater than the potential environmental advantage of a reduced visual impact.

080 78. This information suggests that there was anticipated an ore deposit that would be profitable to mine in the future. However, it is our understanding based on statements of Picacho operator, Steve Baumann, (also the applicant for the proposed Imperial Project) that Chemgold is terminating operations at the Picacho mine and that responsibility for the private mined land would soon revert to the private owner. Does Chemgold have plans to expand the Picacho mine in the future as suggested by its reasons for not completely backfilling the mined out pit as described in its 10/91 Final SEIR? Or are assertions about the potential for future mining of the mine pit walls merely part of a justification for not completely backfilling the pit?

081 79. We raise these questions because we are aware of information provided by Glamis Gold that the ore grade at the Picacho Mine is several times the quality of the potential ore grade at the proposed Imperial Project and that the strip ratio at the Picacho mine is so much better than the proposed Imperial Project, we wonder why Glamis Gold proposes to start operations at a site with lower grade ore and higher strip ratio rather than to continue mining the pit walls of the Picacho Mine when it asserts that there would be residual gold in those pit walls at the Picacho Mine. Surely the company has done tests and analyses of the ore grade of the pit walls and surrounding area the Picacho Mine. What is the residual ore grade in the pit walls at the Picacho Mine, what is the anticipated strip ratio for removing the residual gold ore, and for what reasons did the company choose to abandon expansion of the Picacho mine? Does Glamis Gold have any future plans for re-visiting the exposed pit walls of the Picacho Mine?

082 80. Did Chemgold ever intend to expand the pits at Picacho to remove mineralization in the pit walls? If so, please provide documentation which supports this. This is an important concern because once again the company asserts that complete backfilling at the proposed Imperial Project East Pit should not the required, in part because backfilling would remove the potential for future extraction of residual

mineralization.

083 81. Glamis Gold (in its 10-K/A 3/98 filing) states that: "Mining of the last known ore body at the Picacho mine was completed in December 1997. (GGL 3/98 10-K/A ai p. 14.) Does this mean that there is no residual mineralization in the pit walls? If si, then backfilling should be completed.

084 82. At how many mines, and at what specific locations, have mining companies during the past two decades returned to resume operations and mine out the residual mineralization in the walls of pits which had been previously mined out? If this has not occurred, even during times when gold prices were higher, it would seem that this argument of the need to preserve the potential for future mining of residual pit wall mineralization is not a serious justification for failing to completely backfill a mined out pit. Chemgold's 10/91 Final SEIR states that the Picacho Mine site is "in an established mining area and is planned for continued mining used by the County." (Chemgold 10/91 Final SEIR at p. 3-17.) Thus, although the area is in an area designated by BLM as Class L (limited use) in the CDCA Plan, the existence of mining in this area pre-dating the Picacho Mine operations by Chemgold make the interpretation of impacts in this limited use area very different from the potential impacts at the proposed Imperial Project at a site where there was no established mining area and where a County had not planned for continued mining use or even initiation of mining.

ARE THE APPLICANT'S MINING CLAIMS VALID?

085 83. In the discussion of mining in the Draft EIS/EIR there is no indication that tests have been done to determine whether or not mining claims are indeed valid and whether or not there was a discovery of valuable minerals. Indeed, BLM State Director Ed Hastey stated that as of December 16, 1996 no validity exam had been done. Failure to complete a validity exam, do a conclusive determination about whether not such low-grade disseminated gold ore deposits would, or even could, "pass" a validity exam based on either the "prudent person test" or the "marketability test" at today's gold prices raises serious questions about the basic underlying assumptions that are pervasive throughout the Draft EIS/EIR for the proposed Imperial Project.

PROFITABILITY WHERE? VALIDITY EXAM WHEN? IS PROFITABILITY POSSIBLE HERE AND NOW?

086 84. Indeed, unless and until the BLM requires and obtains the results of a "validity exam" to determine whether or not claims are really valid mining claims, any discussion about profitably recovering such low grade disseminated gold deposits is really meaningless. BLM State Director, Ed Hastey, during the 12/16/97 consultation with the Quechans (at which Harmon was present) stated that he would order a validity exam. He stated that no validity exam had been performed prior to that date. Has the validity exam been conducted since that December meeting? If so, what are the results of the validity exam? When will the results of the validity exam be made public? Why wasn't this information available prior to the preparation and distribution of the 11/97 Draft EIS/EIR? This information is essential to determine if the stated objective of "profitability" is realistic or feasible in today's market conditions. Why has not the deadline for the Draft EIS/EIR comment been extended until there has been a distribution of the validity exam results to the public?

087 85. The ore grade at the proposed Imperial Project is 0.016 ounces of gold per ton ore, and the strip ratio is 2.64: 1. By contrast, the nearby Picacho Mine which is closing had an ore grade of 0.059 oz. of

gold per ton of ore, and a strip ratio of 0.20: 1 (Exhibit W-98. Information from Glamis Gold WebSite.)

088 86. The difference between the two ore grades and strip ratios at sites controlled by the same parent corporation raises serious questions about the validity and economic viability of the claims held at the proposed Imperial Project site. The questionable validity of the claims at the proposed Imperial Project site is heightened by a review of the 11/88 American Girl Final EA/EIR which describes both open pit and underground tunnel mining, a review of Picacho mine information, the Glamis Gold 10-K/Areport, and Newmont Gold's 10-K report to the SEC.

089 87. The 11/88 American Girl Final EA/EIR describes both open pit and tunnel mining. "Ore to be surface mined from open pits will be of a relatively low-grade (averaging 0.051 oz. of gold per ton of ore).(DEIS at p. ES-4.) Ore from the open pits would be transported and leached. Underground ore is a higher grade and more sulfidic and would not be leached, but milled. Ore would be crushed to minus 2 1/2 in. It will then be transported by conveyor belt to haul trucks and then the heap leach or mill processing facilities. (American Girl Final EA/EIR at p. 2-7.) If 0.051 oz. Gold/ton ore was considered "relatively low-grade" at the nearby American Girl Mine, and this is approximately comparable to the Picacho Mine ore grade, how is it possible that the much lower grade ore with a higher strip ratio could be profitably mined at a time when gold prices have fallen and remain low? Can the claims at the Imperial Project site pass a validity examination?

090 88. Without a determination of validity, Glamis Imperial's objective for the proposed Action with respect to its intent to "fully exercise its rights under the General Mining Law of 1872" is limited to its right to file mining claims, pay annual assessment fees, and conduct exploration.

> As against the United States, however, a mining claimant acquires no vested rights by location of a mining claim. Even though a claim may be perfected in all other respects, unless and until claimant is able to show that the claim is supported by a discovery of valuable locatable mineral within the boundaries of the claim, no rights are acquired. United States v. Multiple Use, Inc., 120 IBLA 63, 79 (1991). Until patent has issued, the rights of the mining claimant are limited by the statutes and regulations under which those rights are acquired and maintained. The title to the lands subject to unpatented mining claims remains in United States. See Cameron v. United States, 252 U.S. 450, 460 (1920). (127 IBLA 181, 191.)
>
> The validity of any mining claim is dependent upon the disclosure of a valuable mineral deposit within the limits of the claim. 30 U.S.C. section 22 (1988). A valuable mineral deposit exists if the mineral found within the limits of the claim is of such quantity and quality that a prudent person would be justified in the further expenditure of his labor and means with a reasonable prospect of success in developing a paying mine. United States V. Coleman, 390 U.S. 599, 602 (1968); Chrisman v. Miller, 197 U.S. 313 (1905); Castle v. Womble, 19 L. D. 455, 457 (1894). This "prudent man" test has been refined to require a showing that "as a present fact, considering historic price and cost factors and assuming that they will continue, there is a reasonable likelihood of success that a paying mine can be developed." United States V. Holder, 100 IBLA 146 (1987); In re Pacific Coast Molybdenum, 75 IBLA 16, 29, 90 I.D. 352,360 (1983). However, actual successful exploitation need not be shown -- only the reasonable potential for it. Barrows v. Hickel, 447 F.2d 80, 82 (9th Circuit 1971). The question is not whether a profitable mining operation can be demonstrated, but whether, under the circumstances and based upon the mineralization exposed, a person of ordinary prudence would expend substantial sums with the

reasonable expectation that a profitable mine might be developed. Barton v. Morton, 498 F. to D. 288 (9th Cir.), cert. denied, 419 U.S. 1021 (1974). (United States V. Mineco, et al., 127 IBLA 181, 187. 9/7/93.)

091 89. In additional discussion of the rights of a mining claimants with respect to claims on federal lands, another IBLA decision made the following findings:

> It is a truism long recognized that, despite the mandates of law, individuals often locate mining claims at the first indication of value, long before evidence has been collected which might justify the development of claims. So long as a discovery ultimately occurs while the land remains open to mineral entry, the Government will not concern itself with the order in which the acts of location and discovery have transpired. See Cole v. Ralph, 252 U.S. 286 (1920). But, where the Government has determined to withdraw land from operation of the mining laws, only such claims already containing a discovery are excepted from the force of this action, since only such claims possessed rights as against the United States. Any individual who locates a claim prior to making a discovery runs the risk that the Government will withdraw the land before a discovery can be completed and put all his efforts to naught. But this is a risk no different than that assumed by those who, mindful of the statutory requirement that discovery precede location, refrain from staking a claim until such time as discovery has been shown to exist. (United States v. Rich Knoblock et al, 131 IBLA 48, 101 I.D. 123, 159, 10/18/94.)

092 90. Based on our review of the mining claims on file at the BLM ECRA, it is apparent that the project applicant has hundreds of paid-up mining claims in the areas along and surrounding the Indian Pass Road. The applicant also has abandoned hundreds of mining claims (also in the Indian Pass Road vicinity) which had been either acquired from earlier claimants or filed by the applicant company itself. Glamis Gold has "expanded its land position at the Imperial Project to 579 claims covering approximately 10,630 acres." (GGL 3/97 10-K/A at p. 38.) Although we have been unable to ascertain the exact location of some of the more recent claims held by the project applicant in the Indian Pass Road vicinity, we have prepared a map which indicates the locations of paid-up mining claims held by the project applicant, the locations of abandon mining claims previously held by the project applicant, and the status of other mining claims held by other claimants. (See Exhibit KK-98.) Our review of the mining claim microfiches and the Map prepared based on that information in addition to Glamis Gold's 10-K/A filing strongly suggests that the mining claims filed along the Indian Pass Road and vicinity represented a shotgun attempt in a hope for valuable mineral deposit after the Environmental Review for the Mesquite Mine in the early 1980s. The proposed Imperial Project on the Indian Pass Road is approximately halfway between the Mesquite Mine and the Picacho Mine. Some of the earliest claims in the area appear to have been filed by the Singers, who also held mining claims that later became part of the Mesquite Mine. When one realizes that almost all of the land to the south of Black Mountain, to the north of the Cargo Muchachos, and to the east of Ogilby Road is carpeted with mining claims, this raises questions about "discovery".. The rapidity with which these claims have been filed makes it seemed unlikely that discovery of a valuable mineral preceded the filing of the mining claims.

093 91. In response to such actions related to the filing of mining claims, IBLA noted that:

> We recognized that there are significant costs associated with any drilling program. But those who seek to obtain rights to public lands must either find in their own means to finance all necessary exploration activities, obtain meet of those financially better equipped to do so, or run the risk that

the Government will determine to withdraw the land from mineral entry and prevent the acquisition of adverse rights. In this instant case, it seems clear to us that the drilling which had occurred prior to 1972 was inadequate to delineate a valuable mineral deposit within the meaning of the mining laws. That being the case, the land within the claims was not excepted from the force of the withdrawal. Since the claims were not supported by a discovery as of 1972, and a withdrawal for the SNRA prevented the acquisition of any new rights to these lands, the conclusion is inescapable the claims must be declared null and void. (United States v. Rich Knoblock et al. 131 IBLA 48, 101 I.D. 123, 159, 10/18/94.)

094 92. Nothing in the Draft EIS/EIR Section 1.6. "Principal Agency Policies and Authorizing Actions" discussion of BLM policies and decision-making potential even remotely suggests that a determination of the validity of the mining claims discovery of a valuable mineral deposit is in anyway necessary to approval of a Plan of Operations by BLM. This is a very serious omission. Admittedly, federal regulations do not require the conduct of a validity examination unless the mining claimant intends to patent the claims; however, the Government may require a validity examination to be prepared at any time. In addition to decisions by the IBLA, there is discussion of location, patenting, discovery, and validity related to the location of mining claims and mill sites in California included in BLM's 1996 special publication entitled Location and Patenting of Mining Claims and Mill Sites in California, Leshy, 1987, and Maley, 1996.

095 93. Based on IBLA decisions, it seems evident that there can be no determination of validity of a mining claimant's discovery of valuable mineral deposits without the completion of a validity exam. Absent a validity determination, it is grossly inappropriate for BLM to state that its Preferred Alternative is the Proposed Action and that this "is the alternative that best fulfills the agency's statutory mission and responsibilities (see Section 1.6.1), giving consideration to economic, environmental, technical and other factors." (Draft EIS/EIR p. 2-63.) Not only does the statement of a preferred alternative suggest prior approval of the proposed mining plan of operations, but also it inappropriately suggests a prior determination of validity of the mining claims without benefit of a formal validity examination. It is doubtful that the IBLA would condone either suggestion as inferred in pertinent text in the Draft EIS/EIR at Section 2.2.5.

PROPOSED MINING OPERATIONS DO NOT FOLLOW USUAL AND CUSTOMARY PRACTICE PRIOR TO LEACHING

096 94. The Draft EIS/EIR for the Imperial Project at both p. S-5 and 2-11 states that the ore would be hauled to leach pad without crushing. There is no indication in a text at p. 2-11 of the size of the material that would be going to the leach pad for treatment with cyanide. Based on a review of Draft and Final EIS/EIR documents for other cyanide heap leach gold mines recently approved or pending approval in Southern California, it is apparent that the proposal for leaching without first crushing rock to smaller size is not typical of the operations currently or recently used. For example, the Soledad Mountain project would crush the material to "a nominal minus 10 mesh" to reduce particle size. (Soledad Mountain Project 1997 Draft EIS/EIR Volume II Appendix II page 8.) (Exhibit GG-98.) At the Castle Mountain Mine ore would be crushed to approximately 3/8 inch size. (Castle Mountain Mine 1997 Draft EIS/EIR that p. 2-4, Final EIS/EIR p. 2-1.) (Exhibit HH-98.) The Briggs Mine would employ a crushing to approximately 1/4 inch size for leaching efficiency. (Briggs Project 1995 Final EIS/EIR vol. II p. 2-20.) (Exhibit II-98.) The Oro Cruz Operation of the American Girl Mining Project in Imperial County described ore crushed to approximate 3/8 inch size. (Oro Cruz Project 1994 Final EIS at p. 32.) (Exhibit FF-98.) Even the

Mesquite Mine 1984 Draft EIS/EIR describes a process to crush the ore prior to leaching. (Mesquite Mine 1984 Draft EIS/EIR at pp. 3-11.3-9.) (Exhibit JJ-98.) The Mesquite Mine is also located in Imperial County. One reason rock is crushed is that it reduces the potential for large, heavy chunks of rock to crush or puncture the liner as uncrushed rocks are dumped onto the leach pad liner or on the leach heap.

09795. When all these other mining operations describe a process for crushing the ore to a smaller size for more efficient treatment prior to transport to the heap leach pile, there should be some explanation in the Imperial Project Draft EIS/EIR as to why this procedure was not chosen or included. Without any indication as to the size of the material removed from the open pits, it is not possible to determine the rationale or effectiveness of leach treatment for using uncrushed rock. How would failure to crush the low grade ore affect the leaching efficiency and the percentage of recovery of the sought gold? How would failure to crush the ore affect the potential determination of marketability and the prudent person test for the validity examination? Why has the project applicant chosen this unconventional or less commonly used technique for processing?

GLAMIS GOLD RECOVERY RATES

Recovery rates experienced at the Companies operating mines from start-up to the December 31, 1997 are as follows:

Mine	Recovery Rate
Picacho	65.2%
Rand	59.9%

(GGL 3/98 10-K/A at p. 16.) (Exhibit SS-98.)

[What then is the basis for projecting a 73% recovery rate for the proposed Imperial Project which has an ore grade more similar to that at the Rand Mine and than at the Picacho Mine?]

IMPERIAL PROJECT RESERVES

Drilling, geological interpretation and mine evaluation studies have resulted in the delineation of a proven and probable mineable ore resource for the Imperial Project as at December 31, 1997 within preliminary pit outlines, using a 73% recovery rate, a cut-off grade of 0.007 ounces of gold per ton and a gold price of $350 per ounce, at 81,623,700 times of proven reserves rating 0.016 ounces per ton and 13,504,500 tons of probable reserves grading 0.014 ounces of gold per ton, having a combined stripping ratio of 12.64: 1. (GGL 3/98 10-K/A at p. 39.) (Exhibit SS-98.)

What is the basis for anticipating a 73 % recovery rate at the proposed Imperial Project where the ore grade is lower than the Picacho Mine where the stripping ratio was 65.2% (GGL 3/98 10-K/A at p16.)? At the Rand Mine where the ore grade is slightly higher, the recovery rate was 59.9 percent.

Section 2.1.3 mining groundwater issues

09896. Based on information in Table 2.2 it appears that the pit floor elevation of the West Pit is 271 feet below the groundwater table, and that the pit floor elevation of the East Pit is 148 ft. below the groundwater table. The water table is difficult to determine in fractured bedrock because water moves along fractures. The Draft EIS/EIR asserts the total groundwater inflow has been estimated at only 1.5 gpm for the West Pit and 0.7 gpm for the East Pit. Although this sounds like a small quantity of water, calculations for the West Pit, 11,600 gallons/day or 4,234,000 gallons/year, reveal this to be approximately

13 acre-feet/year. This is not an insignificant quantity of water in such an arid environment. Water lost to inflow is really water that is no longer available to move through underground formations and be available at some later place downgradient for vegetation. The estimated inflow for the East Pit is approximately half that of the West Pit.

09997. Draft EIS/EIR at p. 2-12 is inconsistent with Technical Appendix E-1 at p. 5 when it asserts "that the estimated annual evaporation rate is approximately 170 times the annual estimated groundwater and precipitation inflow rates" and therefore a pit lake being formed in the bottom of the East Pit is unlikely. What is the source of this estimate of 170 times the annual estimated groundwater and precipitation inflow rates? This figure is inconsistent with information provided by other documents related to projects in eastern Imperial County. The hydrology technical report for the Mesquite Regional Landfill (4-1) states that: "The evaporation rate in the site area is estimated to be about 100 inches per year." The evaporation rate of about 100 inches a year has been used for numerous documents and projects. Since the Mesquite Regional landfill is approximately 10 miles from the proposed Imperial Project, it is highly improbable that the evaporation rate at the Imperial Project site would be that much greater than other places in eastern Imperial County. Indeed, Technical Appendix E-1 at p. 5 "Evaporation rates in the project area are estimated to be about 100 inches per year." Therefore, it is also highly improbable that the evaporation rate would ever be 170 times as much as become combined groundwater and precipitation inflow rates. Accordingly, the assertions that there would be no pit lake formation are not supported by the facts provided. By contrast, the Reclamation Plan at p. 46 states that "the evaporation rate will be in the range of 100 times the anticipated quantity of groundwater inflow." Again, this is a questionable statement. There is no reference to precipitation. Reclamation Plan at p. 46 states that if there is the potential for pit lake formation the applicant "will place sufficient backfill into the pit raising the floor of the pit to level higher than any pit lake which [might] form." The real question is how much higher than any anticipated pit lake? We raised this question in our original comments last year, but it has been ignored. Unless there was truly a significant amount of backfill above any projected pit lake, the moisture accumulation at the bottom of the pit or in the backfilled portion of the pit might be sufficient to support the introduction of tamarisk, a weed tree species, or to result in pollution of the groundwater resource as exposed rock reacts with moisture and oxygen.. Additionally, exposure of pit side walls to increased evaporation will add to local dewatering of the groundwater resource in the proposed project pit area.

SECTION 2.1.4 GEOCHEMICAL CHARACTERISTICS OF MINED MATERIALS

10098. The 11/97 Draft EIS/EIR contains no new information on the acid generating potential or heavy metal contamination potential of ground water, and no new Technical Appendices for this subject. However, it is interesting to note, that information in Technical Appendices which were not included in Volume II reveals concerns about the analytical techniques and the results that were obtained for a number of the values of waste rock characteristics. If some results were clearly in error and caused concerns of the reviewers at Core Laboratories, one wonders if there might be other errors also. If there are other analytical errors that had the effect of making it appear that there was less acid generating potential for waste rock and pit walls, we wonder if this would have been reported, because it would be in the applicant's interest to minimize potential impacts. Additional tests for waste characterization should have been performed. If samples were taken from all of the exploratory drilling tests, why weren't they? Because there were analytical problems with some of the waste characterization tests, it would seem prudent that additional tests should have been performed at that time.

SECTION 2.1.8.1 HEAP LEACH FACILITY

101 99. The Draft EIS/EIR states of the proposed heap leach liner pad would consist of a composite of a 40-mil polyvinyl chloride (PVC) primary and 20-mil PVC secondary composite liner. The text then goes onto state that this is similar to the liner constructed at the nearby American Girl mine in 1995. However the Final EIS for the Oro Cruz Mine at the American Girl operation (at p. 42) describes a single 60-mil high-density polyethylene (HDPE) membrane. It seems likely that there might be greater protection for the Groundwater afforded by a thicker 60-mil HDPE liner rather than to separate liners totaling 60-mil PVC. However, we are uncertain of the difference in the characteristics of the two liner systems when used for cyanide heap leach liners. The recent experience at the Castle Mountain Mine provides evidence that a leak under the leach pad could occur any place and is extremely difficult to locate. It would be even more difficult to locate the source of a leak if monitoring were to occur under only a fraction of the cyanide heap leach process area. Even Glamis Gold admitted the company had a problem with spills or releases at its various operations during the past year. At which mine, or mines, and at what quantities?

> During the year ended December 31, 1997 the Company had six small reportable releases or spills at its operations. In all cases the appropriate authorities were notified and cleanup was undertaken immediately. Measures, including procedural changes and education were taken to prevent re-occurrence of the incidents. No action by the authorities is expected in respect of any of the occurrences. (GGL 3/98 10-K/A at p. 22.)

Because the Draft EIS/EIR made reference to the system used at the American Girl mine, it should include discussions of the relative merits of each liner system. Why was one system chosen over the most recently used other system? What are the differences in terms of the properties of using HDPE liner vs. PVC?

102 100. The leach pad liner used at the Picacho Mine for pad site 5 is described as 60 mil HDPE liner (Chemgold's Draft 6/91 SEIR and Final SEIR Technical Appendix A at p. 1.) This is quite a change from the original pond leach pad liner of 20 mil PVC which was described and depicted in the 5/82 Final EIR at p. 14, and the Longley-Cook Engineering letter at p. 3. The 5/82 later states that: "Engineering design and company operation appear "fail-safe", something which the 1995 EPA study of releases from gold mines including the Picacho Mine reveals was not the case. This information raises curious questions about why the project applicant, Glamis Imperial, is choosing a leach pad liner material and quality that is different from what was used in its 1991 expansion at Picacho Mine. What was the explanation for why the company changed, 20 mil PVC liner to a 60 mil HDPE liner for leach pile expansion after nine years? Why has the company now rejected the 60 mil HDPE liner after seven years?

103 101. The leach pad liner at the American Girl mine was a 40 mil HDPE over compacted base (American Girl 11/88 at p. 5-35). The 7/87 Padre Madre POO (at p. 22) also described a 40 mil HDPE liner over compacted base. The same data is included in the Padre Madre POO and CUP application documents 8/87 at p. 28. The 1992 construction records report of liner installation for site 4 leach pad at the Picacho mine indicated a 60 mil HDPE liner over compacted quarter inch cushion material with 12 oz. per square yard geotextile was used. (Construction records report of liner installation for the site 4 leach pad at Picacho Mine, 1990, vol. 1 of 2 at p. 8.) Why then would the project applicant who installed a 60 mil HDPE leach pad liner at its Picacho Mine now choose to use two thinner PVC sheets as a leach pad liner rather than use the same material which was employed at its Picacho Mine?

104 102. We note that the recent approval of the Soledad Mountain project in Kern County, CA required equal to what would be a leach pad liner with an 80 mil HDPE liner as part of the composite liner. (Soledad Mountain Project, 1997, Draft EIS/DIR, vol. 3, Appendix 3, Surface Mining Reclamation Plan at

p. 36.) Also the 1997 Draft EIS/EIR for the Castle Mountain Mine Expansion Project required a composite liner with a 60 mil HDPE liner or equivalent for the heap leach pad. (Castle Mountain Mine Expansion Project 1997 Draft EIS/EIR at p. 2-43.) This recent review by BLM of 2 heap leach pad designs for open pit gold mine operations in California Desert using HDPE liners raises questions about the choice of a PVC liner or PVC composite liner at the proposed project site.

Section 2.1.8.3 Vadose Zone and Groundwater monitoring

105103. Why is the vadose zone monitoring system proposed underlie only approximately 25 percent of the leach pad liner? Because a leak in the liner could occur in any place it seems essential that vadose zone monitoring occur under the entire leach pad liner rather than just a small portion of leach pad. The recent leak at Viceroy's Castle Mountain mine reinforces the idea that leaks in the leach pad liner can occur any place, and anytime, and be extremely difficult to detect. Having a vadose monitoring system under only a small portion of the leach pad liner would make detection even more difficult. Additionally, removing the leach heap to reach the liner to clean up the leak would be even more difficult, time-consuming, and expensive if the site of the leak is unknown because of inadequate vadose zone monitoring.

Mining Chemicals/Explosives.

106 104. The blasting agent, ammonium nitrate, is also a fertilizer. Residual material left in the waste rock from the after-effects of blasting could act as a temporary fertilizer if moisture conditions in the waste rock are adequate for plant growth. This could result in the creation of an environment suitable to weed species. It could also result in a short-term fertilizer effect which could later be diminished where depleted after irrigation or rainfalls leach it past the root zone. Section 2.1.9.4 discussion of blasting and diesel fuel used indicates that there would be 7,500 gallons of ammonium nitrate used for blasting and indicates that there would be an additional annual diesel fuel consumption of about four million gallons. Because the blasting includes ammonium nitrate and diesel fuel, the question arises as to how much of the proposed diesel fuel is to be used for blasting and how much is used to operate on site equipped equipment? This question is of concern as the residue of the ammonium nitrate and diesel fuel used in the blasting could act as soil contaminants or also as fertilizer to weed species which might quickly invade the area around the bases of the waste rock piles if rainfall is adequate.

Section 2.1.9.6 Roads.

107105. Because the proposals related to road use and the proposal for temporary realignment of the Indian Pass Road for about 6,000 feet distance at approximately 1,000 feet to the west of the existing Indian Pass Road have remained unchanged from the original Draft EIS/EIR, our original concerns remain.

Section 2.1.9.8. Fences.

108 106. There are no significant changes in the 11/97 text related to fencing, again our original concerns remain.

Section 2.1.10. Exploration (11/96 Draft EIS/EIR) or Geological Surveys (11/97 Draft EIS/EIR).

109107. The changes in the text for this section which are deemed significant, not because of what they say, but because of what was left out. BLM/96 Draft EIS/EIR includes the following statement: "The

exploration drilling would occur only in the Project mine and process area, and be concentrated within the and adjacent to the proposed open-pit areas and in the Mineralized Potential Area. Any exploration proposed outside of the Project mine and process area would be conducted under an additional Plan of Operation and Reclamation Plan." (11/96 Draft EIS/EIR at p. 2-32.)

110 108. The 11/97 Draft EIS/EIR at p. 2-32 includes the following statement: "no geological surveys for the condemnation, exploration, or confirmation of mineralization outside of the Project mine and process area are proposed, or would be authorized, under the Proposed Action." The statement and 11/97 Draft EIS/EIR does not say that there are no plans for future exploration or confirmation of mineralization outside the project mine area, it simply says that they could not be authorized under the proposed action. As stated in the 11/96 Draft EIS/EIR, any such exploration outside the proposed area on mining claims which are open and which are held currently by the project applicant would require an additional Plan of Operation and Reclamation Plan. Because the project applicant is paying an annual assessment on hundreds of open claims (579 claims on approximately 10,630 acres (GGL 10-K/A at 38)) surrounding the proposed Imperial Project this information in both documents raises considerable concern about the intentions of the project applicant with regard to plans for future expansion of the proposed mine project. This is of real concern based on our discussion of the problems associated with the existing County Reclamation Plan Number 149-91 and the information on file in BLM's mining case file for the Imperial Project. This is discussed elsewhere in these comments.

Section 2.1.11.2.3 Drainage Reestablishment and Erosion Control

111 109. This section states that several drainages "must be permanently diverted around the facilities located within the Project mine process area". What are the long-term consequences to the downgradient microphyll woodland vegetation if these drainages are permanently diverted? Specifically, how will the alluvial fill in the drainages be impacted by the loss of up-gradient groundwater recharge and surface run off? It appears that the diversion of washes at the Mesquite Mine resulted in the loss of numerous large ironwood trees downgradient after wash diversions. What is the full extent of off-site downgradient loss of microphyll woodland in the vicinity of the Mesquite Mine or any of the other open pit cyanide heap leach mines located in eastern Imperial County? Are there any studies that have been done to document this off-site impact, if so what are those studies, and what are the results?

RECLAMATION PLAN

112 110. The Reclamation Plan is included as technical appendix A in the 11/97 Draft EIS/EIR. Section 6 of the Reclamation Plan includes the following statement with respect to the goals of the Reclamation Plan for this particular project:

> where feasible, providing the resumption of pre-mining land uses. The post-mining reclamation goals of the project are to reclaim the site to a stable, functioning landscape unit/ecosystem to allow for similar land uses, including wildlife habitat and recreation, as currently exist.... The final land forms of the mine site can not be reclaimed to to the original contours. Thus the goal of the Plan is not to restore and revegetate to the original landform, but to a natural state that blends in with the existing undisturbed terrain. (Reclamation Plan at p. 19.)

113 111. Acknowledging that the proposed Reclamation Plan does not plan on backfilling the East Pit, and would leave steep slope to angular leach heap and waste rock piles, there seems to be no way that the

proposed Reclamation Plan could ever achieve its stated goals in terms of wildlife use. recreation, religious training and use, archeological education and research.

114 112. The Reclamation Plan at p. 19 states that: "Glamis Imperial's sister company, Chemgold, has recently conducted revegetation testing programs at the nearby Picacho Mine and has information on reclamation testing at 3 additional desert mining locations in California." Although the mining company asserts that its revegetation efforts at the Picacho Mine have been successful, that was not our assessment based on the view of the mining operation and reclamation efforts at one of the leach heaps during the tour with the BLM Desert District Advisory Council. From our perspective, based on this visit to the Picacho Mine, the revegetation and reclamation efforts appear to be a failure. Much, if not most of the vegetation on the leach heap we were shown appeared to be either dead or dying. If Chemgold has information on reclamation testing at other mining locations in California, what are those locations and what is the information? Why isn't that included in the Reclamation Plan as a technical appendix? Why is there no reference to those specific sites? Failure to include this information is representative of the failure of these plans to serve their purpose as informational documents for decision-makers and for an informed and concerned public.

PICACHO MINE REVEGETATION MITIGATION

115 113. Chemgold's 10/91 Draft Picacho Mine SEIR discussion of mitigation measures for Biological resources impacts to includes the following mitigation for loss of large microphyll vegetation too large to be transplanted. The document states that: "Chemgold, Inc. will establish relocated vegetation from the BLM land to the Site 2 leach pad. Those trees, too large to be successfully transplanted will be replaced, on a 3:1 basis, with a mix of Palo Verde and Ironwood trees. Replacement trees will be planted on Site 2 with consultation with the BLM in the fall." (Chemgold's 10/91 Final SEIR at p. 6-14.) It is particularly interesting to review this text after having had the opportunity to participate in the BLM Desert District Advisory Council tour of the Picacho Mine and view leach pad Site 2. Our impression was that there was not one successful survival of transplanted ironwood trees. It was interesting to note that the mitigation measures listed in the Draft SEIR did not mention survival of the transplanted trees or growth and survival of seedlings to replace lost trees.

116 114. The Final SEIR at Section 1.5.8 (at p. 1-11) at again at p. 6-13 Biological resources states that the adverse impacts to Biological resources shall be mitigated by implementation of the following conditions including:

> The California Department of Fish and Game will require, as a mitigating condition for habitat lost on the project site, the collection of seeds from native vegetation for germination either from the actual washes to be impacted or from adjacent washes. These seeds shall be used by an outside firm to establish seedlings for planting in washed areas be anticipated replacement great is 4:1 for large trees in the washes.

117 115. What we observed on the field trip of the Picacho Mine was definitely transplanted seedlings of ironwoods. However, the survival rate did not appear to be either 3:1 or 4:1. The question arises then as to whether there has been successful revegetation at the Picacho Mine site, and if so who at the BLM or who at the CDFG made the determination that revegetation had been successful? When was such a determination made and upon what basis? This is important because the project applicant for the Imperial Project directs our attention to the Picacho mine as an example of successful revegetation by the project

applicant.

118 116. Many of our comments on the 11/96 revegetation plan and Reclamation Plan have not been addressed. See our previous comments, resubmitted as Exhibits 1-5.

119 117. It is difficult if not impossible to imagine the post-mining land uses listed in the Reclamation Plan at p. 20 which include rock bounding, hunting, camping, and wildlife habitat occurring on waste rock piles or leach pad piles or associated with the on the un-backfilled East Pit. This is particularly true, if any reclamation efforts at this or any other proposed open pit mine site were to resemble in any way the lands the left by the Picacho Mine or the Mesquite Mine in Imperial County.

120 118. The Reclamation Plan at p. 34 and Draft EIS/EIR Section 2.1.11.2.1 Backfilling and Grading discussions state that: "This reclamation would create undulating land forms that are stable, do not allow for any pooling or ponding of water, and blend with the surrounding undisturbed topography." However, the figures depicting the final contours after reclamation appear to depict stair step or almost uniform contour intervals and show no suggestion of the described undulating land forms. A tour of the Picacho Mine revealed that Chemgold had created numerous depressions on and at the base of a leach heap that would allow for small ponding or for the collection of wind blown seed and an accumulation of water during heavy rainfalls. The accumulation of water in these depressions might have been responsible for what could have been "drowning" the planted ironwood trees on the Picacho leach heap reclamation site.

121 119. Because the color of the underlying soils is lighter than the desert-varnished volcanic material now covering the surface of the proposed mine project area, it is highly unlikely that any grading or attempt to round straight lines could ever result in anything that is visually compatible with the surrounding terrain. References to the small catchment basins of 4000 to 5,000 square feet (Draft EIS/EIR at p. 2-39) to facilitate revegetation seems inconsistent with the earlier discussion of not allowing any pooling or ponding of water on reclaimed waste rock piles or the leach pad site. What is meant by the seeming contradictions?

> The open-pit mining operations which the Company carries out are generally subject to such risks, with the primary risk being slope failure. The Company has not experienced any slope failure that has materially affected its open-pit operations however, no assurance can be given that such will not occur. [This means that slope failure has occurred in the past.] A major slope failure could materially reduce production from the affected area for some time, although for large open-pits, because mining is done in phases whereby pit walls are pushed back to final pit boundaries, a slope failure in one area would not necessarily affect mining in another area or overall pit design. (GGL 3/98 10-K/A at p. 24.)

122 120. The Reclamation Plan Section 6.6 at p. 33 includes language which suggests the possibility of non-native species being used for revegetation. The text of concern follows: "locally-collected and native plant species seeds" and "these native and locally-adapted plants". Since local plants are not always native plants, it is the use of the word "and" that raises concerns about the potential for non-local or non-native species of plants and seeds to be used for the proposed revegetation effort. Indeed, Reclamation Plan at p. 56 states that: "Some naturalized exotic species" will also be collected in the seed mix. Mustard is included in the list. This raises concern because some of the naturalized exotic species can be quite invasive and outcompete other native species for limited water resources. For this reason it is inappropriate to use naturalized exotic species for revegetation efforts at this or any similarly situated site.

123121. The Reclamation Plan reference to collecting naturalized exotic species for use in revegetation is in sharp contrast to the Draft EIR/EIS text p. 2-45 which states that: "this seed mixture would include native plant seeds collected in the local area designed to increase available browse for deer." The Draft EIS/EIR discussion of revegetation under its discussion of the Reclamation Plan made no mention of exotics. Why is the text of the two documents so different? Which is correct?

124122. DIRECT SEEDING MAY BE THE LEAST EXPENSIVE, BUT MOST UNRELIABLE METHOD FOR REVEGETATION OF PERENNIALS SO TRANSPLANTING CONTAINER GROWN SHRUBS AND MICROPHYLL TREE SEEDLINGS IS ESSENTIAL. Because years of higher than average rainfall are unpredictable and may be followed by several years of drought in desert areas, there is no guarantee that even if seeds are broadcast after rains that another rain will come in time to facilitate germination before birds, rodents, ants, lizards or insects collect or eat the seeds. Nor is there any guarantee that a subsequent rainfall will provide enough water to sustain growth during hot summer months. How will Glamis Imperial's revegetation plans be modified in response to drought and/or unpredictable rainfall? Once germinated, tender young seedlings are prime targets for herbivory by ants, rabbits, rodents, deer, birds, and reptiles. This is a major problem with transplants also. Protection from herbivory has necessitated experimentation with numerous fencing techniques at other sites. DEIS discussion of revegetation and transplanting must address measures to deal with herbivory. Why does Glamis Imperial's Reclamation Plan (at 55, 56, and 59) discussion of seed collection include collection of seeds from the ground under plants without reference to problems of contamination and damage from microorganisms and insects, or the need to clean and stratify collected seed? Other revegetation programs recommend that seed be collected only directly from the plants, then cleaned, stratified, tested for viability, and stored until appropriate time for planting. Glamis Imperial asserts that seeds would be stored for a period of a few days to several years. (Reclamation Plan at p. 59.) What evidence is there that the more casual efforts at seed collection and field germination employed by Chemgold's Picacho mine have been more successful than those of other researchers? The Reclamation Plan calls for seed to be collected locally. What is meant by "in general" ... "locally" or "in the vicinity of the Project" (Reclamation Plan at 55)? Does it refer to feet, yards, or a specified number of miles from the proposed mine site? If not directly in the immediate vicinity of the site, what are the elevation, soil type, plant community, temperature, rainfall or distance from the site which serve to set limits on the potential seed sources for "locally collected" seed?

125123. EXCLOSURE EXPERIMENTAL PLOTS ARE RECOMMENDED in addition to transplant specific exclosures to determine the effects of herbivory both on-site during revegetation efforts and off-site. Will there be significant changes in the plant communities within the exclosures? Such exclosures should be rabbit-proof, rodent-proof and deer-proof to learn how these animals function within the community. How have different soils influenced the plant communities? What fencing or protective techniques/measures were found to be most effective at the Picacho Mine for preventing herbivory damage to young seedlings and/or transplanted seedlings? The Reclamation Plan at p. 61 No. 9 sites the use of wire mesh cages to protect transplants. What size mesh?

126124. The Reclamation Plan discussion of rehabilitation of pre-mining drainage (at p. 42) states that ironwood and palo verde trees would be dug up and transplanted. It is extremely difficult to believe that ironwood and palo verde trees with sizes up to 8 feet tall or trunks up to three inches in diameter could survive a transplant such as described in the Reclamation Plan. Both species are members of the legume family. Tree species of the legume family are notoriously difficult to transplant when they are dug up from their original habitat. We question whether the watering scheme after transplantation would be adequate to

provide water for trees of such size, especially in drought years. The standard technique used by BLM and by Joshua Tree National Park for transplanting container grown larger species is to fill the prepared hole with water and let it soak in prior to transplanting the tree. This procedure can later be followed by additional waterings. What is the basis for the transplant technique proposed for transplanting ironwood and palo verde trees that are dug up from washes? Is this a technique that has been used at the Picacho Mine or any of the other open pit mines in Imperial County? If so which ones, and with what success? Who certified or determine the success for the transplanting of trees of the size, and after how many years?

127 125. Sec. 2.1.11.4.1 (11/96 DEIS 2-46,47 and 2-38) describe revegetation monitoring for a minimum period of 3 years. The 11/97 Draft EIS/EIR at p. 2-48 and 11/97 Reclamation Plan at p. 66 states that the:

> Reclamation efforts will be considered successful when the results of revegetation monitoring show that there has been an establishment of 30 percent or more of the vegetation density and 33 percent or more of vegetation diversity of the perennial species in the monitored reclaimed and revegetated areas, as compared to the off-site similar vegetation for two (2) consecutive years.

128 126. There is no reference to independent verification or any long-term monitoring which would include both years of drought or years of heavy rainfall. By contrast, US EPA's 4/95 response to the NOI states that US EPA:

> also recommend[s] that revegetation success be monitored and enforced for at least five years following revegetation efforts. First or second year success in meeting the revegetation standards is not necessarily indicative of long term success. (11/96 DEIS/EIR Appendix B, Scoping, EPA letter p.7.)

129 127. We note that Rec Plan at 486 recommends a maximum period of 5 years for monitoring and bonding period for revegetation. However, we question the adequacy of even a 5 year monitoring program in such a harsh climate. If the 5 year maximum for revegetation monitoring was based on the 3 year study (Bamberg 6/95 study appended to the 10/96 Revised Reclamation Plan), it should be reconsidered in light of EPA's recommended 5 year minimum monitoring and the Oro Cruz Reclamation Plan which calls for 10 years monitoring and bonding period for revegetation. (Oro Cruz Final EIS at p. 54-55.) Further evaluation is extremely important because even Bamberg concedes that: "During the winter/spring season of 1995, the weather was wetter than average with significant rains, and on occasion, the washes would flow for short periods of time." (Bamberg 8/95 Soils Resource Evaluation at 3, Attachment D for Rec Plan.) Bamberg further noted that: "The average annual precipitation recorded the past ten years in the vicinity of the site was 4.46 inches (Westec, 1994)." Thus, it is not improbable that the Picacho Mine revegetation monitoring results may not represent long-term success. Why wasn't this information updated to include the 1997 revegetation survey results? We further note that leach pad and waste pile slopes are not at all similar to the terrain of existing braided washes and desert pavement at the proposed Imperial Project site.

130 128. We wonder why the revegetation monitoring results for Spring 1996 were not included in the Rec Plan released in 10/96 and why the Spring 1997 results were not included in the 11/97 Draft EIS/EIR? Was spring 1997 monitoring done? A Revised Draft EIS should accurately reflect the results of both the 1996 revegetation monitoring and the 1997 revegetation monitoring to be more indicative of long-term success as recommended by EPA. The 11/97 Reclamation Plan Attachment B entitled "Monitoring results for Fall 1996, Picacho Mine, Imperial County, CA" indicates that "the revegetation monitoring survey was

conducted on December 13 and 14, 1996, at the Picacho Mine Leach Pad Sites 2 and 3 after the fourth complete growing season (winter/spring 1991/92 to fall/winter 1996). This survey was conducted at the end of an 18 month drought period with little plant growth and no germination." (Reclamation Plan, Attachment B at p. 1.)

131 129. There is an apparent contradiction with respect to the time frame for monitoring of revegetation efforts at the proposed Imperial Project site. The Reclamation Plan at p. 68 includes the following text which appears inconsistent. First the text states that: "It is also recommended that the monitoring and bond period for revegetation be set at the maximum of five (5) years, or earlier if adequate rain occurs in Plan germination and growth equal the proposed vegetation success criteria." Later on the same page it states that:

> Revegetation monitoring will be conducted for a minimum of 5 (5) years following implementation of the post-closure revegetation activities, but would continue until the revegetation success, as defined in this section of the reclamation Plan, has been achieved. At a minimum, monitoring activities will take place during the Peak growth and flower time, usually April or May. (Reclamation Plan at p. 68.)

These two statements appear to be contradictory and confusing. Please clarify the specifics of revegetation monitoring in and unambiguous terms. We were unable to find similar text in the body of the Draft EIS/EIR. What mitigation measures (buying number) and at what pages of the Draft EIS/EIR is this same information repeated?

132 130. The EPA recommendations for minimum 5 year revegetation monitoring after post-closure were incorporated into the Rec Plan (at p. 68), however, we found no comparable mitigation measures in the DEIS/EIR itself. But is this time period adequate to determine success if there is an extended drought? Why not use the 10 year period required for the nearby Oro Cruz operations? These are extremely important questions because as Bamberg notes the Picacho Mine has what must be considered as an incredibly low standard for revegetation success. Bamberg states that:

> Success is required by the Picacho Mine Reclamation Plan, cited in the Monitoring Program of Mitigation Measures, is a one percent (one-third of a plant cover of three percent as measured against a standard based on comparable native vegetation). Present standards for revegetation at the Picacho Mine require comparison to native undisturbed vegetation for plant cover only. Density of perennials and diversity is not required. (Reclamation Plan Attachment B Act p. 1.)

133 131. Another concern is the fact the for this vegetative survey annual plants were included as part of the cover percentage for revegetation. The monitoring results indicate that although the 1995 survey following a period of heavy rains suggested abundant annual vegetation, "in 1996 there was no observable annual germination or growth on the off-site plots. .... [There had been only 0.25 inches of rainfall within the past 18 months.] Since 1995, there was also very minimal growth on perennial plants, and in most cases the shrubs had died-back of branches or hold plants. This is a typical response to drought in this desert area, as plants quickly respond to available moisture." (Reclamation Plan, Attachment B at p. 3.) The author also observed that during periods of drought, larger wildlife such as dear moved in and more heavily used this area possibly due to the increased vegetation growing in catchment areas which might have collected more rainfall. Among those feeding on the vegetation in the area was evidence of deer, rabbits, small rodents including mice and pack rats, lizards, birds and insects as represented by tracks and nests. It was also

observed that there were tracks of fox and coyote in the area based on an increased prey population. (Reclamation Plan, Attachment B at p. 3,4.) In spite of the discussion of the December 1996 Picacho Mine monitoring which included both annuals and perennials, there apparently was no subsequent monitoring at the time of year of previous plant surveys. One must question why the survey monitoring for revegetation success does not follow consistent order of monitoring during the same season each year. As noted earlier, the survival rate of transplanted ironwood seedlings appeared significantly lower than the calculated 78% estimated the December 1996 revegetation survey reported in the Reclamation Plan, Attachment B at p. 7.)

134 132. Why were revegetation monitoring surveys conducted only between 4/11/95-4/13/95 (Rec Plan Attachment A, Bamberg 6/95 at 1) or 4/11/95 through 4/15/95 (Bamberg 6/95 at 2) or 12/13/96 and 12/14/96 rather than also in the fall to determine what plants might be present after late summer/fall rains? Why weren't revegetation studies performed during June 2-3, 1995 (at the same time as botanical quantitative field surveys for the project (Technical Appendix F at 4)? Alternatively, why didn't Bamberg do project botanical baseline studies at he same time as the Picacho Revegetation annual monitoring?

135 133. What is the estimated time for "young ironwood and palo verde trees or seedlings ... to reestablish microphyll habitat similar to that removed by excavation of the original stream channel" (DEIS/EIR at 2-29 (2.1.9.7)) along the regraded channels? In the absence of "nurse" vegetation to provide some protection from the harsh conditions of a regraded wash and/or increased browsing by deer attracted to guzzler(s), is it realistic to assume that the lost microphyll woodland will ever recover to anything similar to present conditions and maturity? How long will recovery take with and without supplemental water during revegetation? Are there documented studies indicating success in similar settings of low rainfall with high summer temperatures? If so, what are the citations?

136 134. If "Little regeneration of ironwoods has occurred" since the heavy cutting of large diameter ironwoods in the past (DEIS 3.5.5 at 3-52), how long, if ever, is it expected for revegetation of mature microphyll woodland to occur? DEIS 4.1.5.3.1 at 5-51 states that "the projected period before conditions return to an approximate pre-Project status with respect to wildlife carrying capacity may exceed several decades following completion of the active life of the project (Rado, 1996)." How many decades? At what other sites in areas with less than 5 inches of rainfall/year and summer temperatures reaching 120°F have microphyll woodlands been successfully revegetated and returned to pre-destruction conditions? How long did it take for revegetation of the original habitat to be restored to pre-destruction/ pre-eradication conditions?

137 135. If "periodic slug irrigation over the project life to enhance establishment of ironwoods and deer browse" on the project site (Mitigation Measure 4.1.5-8, DEIS at 4-66) and along a 3,000 ft section of ephemeral stream channel banks immediately adjacent to and outside the east-southeast project boundary (Mitigation measure 4.1.5-10, DEIS at 4-66, 4-67) is discontinued after the project is completed, what are the anticipated vegetation and wildlife responses to sudden cessation of that water source for irrigation? What has happened at other hot and dry desert sites when drip irrigation has been discontinued?

138 136. Mitigation measure 4.1.5-19 (DEIS 4-69) and Rec Plan at 60-61 requires Applicant to salvage specimens of selected plants from the mine and process areas, but provides no clues as to how and or where these specimens would be stored or for how long? Given the long, extremely hot summers in Imperial County, there are only a very limited number of plant species which would survive long term storage with potential for survival after transplanting. At what other locations and under what conditions have ironwood and palo verde trees been salvaged for later transplanting as asserted by Rec Plan (at 60-

61)? How were they stored and what was the transplanting success without drip irrigation? What was the success with transplanting young ironwood and palo verde trees and seedling after they were salvaged or if grown from seed (DEIS 4.1.5-13 at 4-67, 4-68)?

139 137. Mitigation measure 4.1.5-19 states that plants, including cactus, ocotillo, ironwood and palo verde (DEIS at 4-69), are to be salvaged from the mine site and are to be used during project reclamation. These plants will need to be irrigated for the duration of the mine and the time it takes to complete reclamation. However, Appendix F at 18, the authors state that the reclamation methods include monitoring for moisture retention, but do not include irrigation. If this procedure is followed, there will probably be high plant mortality. However, Mitigation measure 4.1.5-19 is not consistent with the text of Appendix F at 17,18. Why the difference?

140 138. Rec Plan Attachment A also reveals that even direct planting of ironwood seeds into the soil in 1992 at the Picacho reclamation site has been a total failure. This is because: "To date, no seedlings have emerged and we have documented that this quick and non-intensive method of ironwood establishment is unsuccessful for ironwood tree replacement." (Rec Plan Attachment A at 1.) Reclamation Plan Attachment B discussion of the Picacho Mine transplanting of ironwood seedlings and the monitoring results from December 1996 is at odds with the observed apparent survival rate in late fall 1997. The failure to include any survey results for ironwood survival success in the late summer or fall of 1997 raises serious questions about the long-term success of the Picacho Mine ironwood seedling transplant effort. We were unable to find DEIS/EIR discussion of the success of any other techniques for microphyll woodland habitat restoration attempted by either Chemgold or any other experiment. A listing of documented studies, preferably long-term studies are a necessary part of the Revised Draft EIS/EIR, so they can be evaluated by botanists.

141 139. A Revised Draft EIS/EIR must make sure that mitigation measures are reflective of the Technical Appendices, and that mitigation measures can be documented as being feasible. If the mitigation measures are not consistent with information in the Technical Appendices, the DEIS should explain the discrepancies. We have not documented all inconsistencies. It is the responsibility of the preparers of the DEIS and BLM and Imperial County, as Lead Agencies, to make certain that inconsistencies are resolved and eliminated or explained in documents released for public review.

142 140. The botanical sections of the DEIS and technical appendices do not have sufficient documentation. Almost all DEIS references cited are field guides, technical manuals for keying out plants, and the brief reports already included in the document. Although many broad assertions are made regarding the plant communities of the site, no articles from scientific journals have been cited in the text to support these assertions. A complete bibliography and the appropriate citations must be included in the Revised Draft EIS/EIR.

143 141. Appendix F (Vegetation Baseline Survey) at p.4 states that the results "should be interpreted as representing the highest cover and diversity possible for the Imperial Project area", that the rains for the years 1992-1995 "have been extremely favorable to plant growth" and that the vegetation growth in the years 1992-1995 was the highest in the last 15-20 years. And yet there is no table presenting the rainfall for the past 20 years (in the DEIS or any biological appendix) or any citation to support the conclusions made by the authors. All of the data in this baseline survey was collected on June 2 and 3, 1995, just 2 days. By June many of the herbaceous plants usually have dried or begun dying so the cover values would probably be lower than cover values from a survey conducted in peak flowering season - March and April.

It is interesting that the data for the Picacho reclamation project survey (Rec Plan Attachment A) were collected for 5 days during peak flowering season (April 11-15, 1995) and therefore would have higher cover values than the baseline survey. Since both studies were performed by the same persons, one must question why studies were not performed during the same time periods when persons were already in the area collecting data. The result of the timing of the two studies is that the cover values for the baseline survey are probably lower than they would have been if the data were collected in April and so the expectations for the reclamation will be lower than they should be.

144 142. It was inappropriate to conduct the baseline wash vegetation survey from January 21 through 24, 1997 (Appendix G at p. 4) during a drought cycle rather than a the time when one might expect more vegetation or at the time when the annual vegetation surveys are made. Furthermore, the text of the Draft EIS/EIR misrepresents the time at which the baseline wash vegetation was conducted. The cover date on the baseline wash vegetation survey is May, 1997, but clearly that does not represent the time of year at which the study was conducted. The implications of this are discussed elsewhere in these comments.

145 143. It is inappropriate to have annual revegetation monitoring done in April-May (Rec Plan at 68) and then compared to baseline data collected in January or June. A revegetation success of only 30% of vegetation density and 33% of diversity observed in the "reclaimed and revegetated" area compared to the off-site similar vegetation for two (2) consecutive years (Reclamation Plan at p. 66)is inadequate. These figures are unacceptably low, all of them should be much higher. For example, the density of the woody plants should be at least 90% of that of comparable sites if revegetation is to be determined successful.

146 144. The Rec Plan proposes a maximum time for monitoring the revegetation efforts on site and a bond period for 5 years. (Rec Plan at 68.) What does this mean? If, after five years the reclamation effort is unsuccessful, what happens? What is the significance of the Reclamation Plan text (2 paragraphs later) stating 5 years minimum revegetation monitoring post-closure? The bond should be high enough that if the reclamation effort fails there will be enough money for another entity to complete a successful reclamation. For the project as a whole, LASER Inc. (11/96 DEIS/EIR Appendix B, LASER letter at p.11, 12) suggests a bond of "at least $6,000 per acre of disturbed area." $6,000 per acre times the 1,362 acres (30 acres fewer than for the 11/96 proposal) Glamis Imperial expects to disturb during the operation of the mine (DEIS cover letter) computes to $8,172,000, much more money than the $2,733,476 that Glamis Imperial proposes to spend on Reclamation and Heap leach neutralization (Rec Plan Tables 7 and 8 at p.71-73). If the revegetation effort fails, then the money should not be returned to Glamis Imperial. Monitoring of the site should last at least a decade to ensure proper establishment of the plant community. The bond period should only end when these conditions have been met to the satisfaction of BLM, CDFG, and CNPS. See discussion of financial assurances also.

147 145. In order to be certain that there are no rare or listed species, it is necessary to conduct a thorough search of the entire mine site (not merely 30 ft interval transects) during the peak flowering time and perhaps several other times during a year with at least average rainfall. Many have visited the site since the rains began in September 1997 and observed many of species in bloom which are not included in any boyanical survey. However, the only plants listed in the report occurred within the transects. The total area of the transects include only a small fraction of the total area. When searching for rare, listed, and sensitive species, particular attention should be paid to the washes where higher diversity is expected.

148 146. The Picacho reclamation site does not provide data to suggest revegetation success or to suggest probable revegetation and reclamation of microphyll woodland. The former leach pad sites at Picacho are

not similar in structure or surface features to either the existing proposed Imperial Project site desert pavement covered alluvial plains or to the braided washes with microphyll woodland. Since the existing project site contains several species of trees and woody perennial shrubs and bushes along washes and upland areas, asserting revegetation success at Picacho Mine by citing the presence, density and diversity of annuals is not encouraging. Furthermore, this discrepancy points out the need for a much longer term of monitoring and bonding than the 5 years suggested by US EPA. Indeed, as already noted, Rec Plan Attachment A at 1 points out the failure of any ironwood seeds to germinate during the 3 years from planting to report date.

149 147. A more detailed discussion of our concern about revegetation/reclamation techniques was included in our 1997 comments and appended hereto as numbered Exhibits 1-4.

150 148. Please note that on the list of plants to be considered for the revegetation on the Project that the Ocotillo is not a cactus as indicated in the Reclamation Plan at p. 58.

151 149. The reclamation success monitoring criteria stating a 30 percent or more of vegetation and citing 33 percent more of vegetation diversity of perennial species on monitored reclaimed and revegetated areas as compared to off-site vegetation for two consecutive years (Reclamation Plan at p. 66, and Draft EIS/EIR Section 2.1.11.4.1 at p. 2-48) is unacceptably low. Both the percentages of vegetation density and vegetation diversity should be higher, and a two-year monitoring program is inadequate. This period of time is too short to determine if any meaningful revegetation or reclamation success occurred, because this timeframe does not consider fluctuations in climate such as drought or years of heavier rainfall such as the winter of 1997/1998. This is also too short because during a two-year period, the leach heap would still remain fairly saturated with the rinse water and there is no indication as to what would happen after the porous material in the leach heap has dried out. What long-term monitoring (5-10 year) has been done on revegetation success on abandoned leach heaps and waste rock piles? At what mine sites and for how long a period of time? The reclamation/revegetation effort at the Picacho Mine did not appear to be successful when we saw it. We cannot recall how long it been since the leach heap had no longer been used for mining operations. A five-year period for monitoring and bonding for revegetation is inadequate. No revegetation effort should be considered successful based on a few years of "adequate rains" or above-average rainfall in the desert, because years of low rainfall are more typical. Revegetation survival depends on the ability to adapt to varying levels of rain, including periods of extended drought. So survival during times of low rainfall is what really counts for long-term success. At a later place in the same discussion of the Reclamation Plan it states that the revegetation monitoring will be conducted for a minimum of five years following implementation of post-closure revegetation activities. Thus, it appears that the text within the Reclamation Plan is inconsistent.

RECLAMATION/REVEGETATION PLAN FOR IMPERIAL PROJECT IS INADEQUATE, AND IT IGNORES RECLAMATION/REVEGETATION REQUIREMENTS AND SUCCESSES AT OTHER DESERT MINES.

152 150. During the past month our members have attended the "Restoration in the East Mojave" CSU Extension class taught by Dr. Ray Franson, restoration/revegetation specialist at Viceroy Gold Corp.'s Castle Mountain Mine in San Bernardino, CA. That course included a tour of revegetation sites on the way to and at the Castle Mountain Mine, tour of the greenhouse and nursery facilities in addition to transplanting nursery grown native plants in a ripped portion of a mine road being reclaimed. We have also had the opportunity to visit the nursery and greenhouses which are part of the restoration program at

Joshua Tree National Park (JTNP).

153 151. Both Ray Franson and JTNP's Jane Rodgers discussed numerous revegetation methods tried and which methods had been the most successful in reclaiming mine sites. The Imperial Project DEIS/EIR and Reclamation plan are inadequate because they ignore the revegetation requirements and successes at other desert mine sites. Where is the 1996 Picacho Mine revegetation monitoring report? Why is there no independent review of that report? And why does the Imperial Project Reclamation plan propose revegetation methods (direct broadcast and seed collection from the ground (Rec Plan at 55, 56, 59)) which have been found to be the least successful at JTNP and Castle Mountain Mine sites? We cite JTNP (Exhibit M, U, and II) and the Castle Mountain revegetation work because their staffs have published articles about their revegetation work. Appendix XI for the Sixth Annual Revegetation Report for the Castle Mountain Mine included a listing of 39 publications discussing various aspects of the Castle Mountain Mine Revegetation Research Program. The annual reports and publications discuss the successes, failures, and problems related to revegetation work. Castle Mountain's Third Annual Revegetation Report (1/31/94) also includes much useful information on techniques and solutions to early revegetation problems. (Also see exhibits JJ and BB.)

154 152. By contrast, the Picacho Mine "Monitoring Results for Spring 1995" (Imperial Project Reclamation Plan's Attachment A) and "Monitoring Results for Fall 1996, Picacho Mine, Imperial County, CA" (Reclamation Plan, Attachment B) do not contain any list of references or publications based on the Picacho Revegetation efforts. Attachment A (at 1) notes that "Recent standards at other nearby mines in the desert require not only plant cover, but also density of perennials, and diversity (number of plant species)." What Attachment A fails to reveal is the identity of the other mines, the specific details of those other revegetation standards or that two other mine reclamation plans call for a 10 years monitoring and bond period for revegetation (Oro Cruz Project in Imperial County and Castle Mountain Mine in San Bernardino County) and that the Castle Mountain Mine plan sets performance criteria based on revegetation of perennials only.

155 153. REVEGETATION PERFORMANCE STANDARDS MUST BE A CONDITION FOR REVEGETATION BOND RELEASE. The Castle Mountain "Mine Plan and Reclamation Plan" Sec. 1.3.5 Performance goals states that: "The 10 year goal for density, using only perennial species, will be 21 percent of the control. .... The 10 year goal for diversity using only perennial species will be 15 percent expressed as a similarity index of the control." (emphasis added.) The Castle Mountain revegetation bonding is performance based with bond forfeiture percentages for failure to meet the revegetation performance criteria. (Exhibit O, BLM ROD Stipulation 21 and Attachment 2.) The Castle Mountain revegetation bond shall not be released until 10 full years of revegetation monitoring, including at least one full year in which the vegetation is self sufficient, demonstrate that the density and diversity standards have been met. (Exhibit 0 at Stipulation 21.)

156 154. We are uncertain how the proposed Imperial Project criteria of "30 percent or more of the vegetation density and 33 percent or more of vegetation diversity of the perennial species in the monitored reclaimed and revegetated areas, as compared to be off-site similar vegetation for two (2) consecutive years" (Reclamation Plan at p. 66) compares with the criteria of set forth for the Castle Mountain Mine revegetation criteria because the proposed Imperial Project text is less specific and leaves room for interpretation. However, we are certain that the standards set forth for the proposed Imperial Project are considerably lower than both the standards in the time frame established for the Oro Cruz operation nearby. Why?

157 155. The Reclamation Performance standards for the Oro Cruz mine in Imperial County states that:

> It is proposed that the standard for the reclaimed surfaces be set at 50% of the cover and density of the similar vegetation measured in the representative transects in the adjacent Tumco Wash areas. The results of the field sampling procedures would be documented prior to completing the final reclamation at Oro Cruz, and would be repeated during the monitoring phase. The monitoring and bond period for revegetation would be set at a maximum of 10 years, or until such time as adequate rains occur and plant germination and growth equal the standard of 50%. (Exhibit P: FEIS Oro Cruz Project at p. 54-55.)

158 156. By contrast, we find the statements in discussion of Imperial Project "Reclamation Success Monitoring" to be vague and containing contradictory statements. The results standard that Glamis Imperial proposes is "30 percent or more of vegetation density" (Rec Plan at 66), but there is no indication that this should be for perennials only as required at Castle Mountain Mine. Glamis Imperial's proposed diversity standards include 33% or more diversity "of the perennial species that in the monitored reclaimed and revegetated areas, as compared to the off-site similar vegetation for two (2) consecutive years. (Reclamation Plan at p. 66). Reference to simply "vegetation" implies including annuals, not the "perennials only" standard for Castle Mountain (BLM Castle Mountain ROD Stipulation 21). Glamis Imperial proposes "monitoring and bond period for revegetation be set at a maximum of five (5) years or earlier" (Rec Plan at 66) rather than the mandatory 10 years for the release of the revegetation bond (BLM Castle Mountain ROD Stipulation 21 (l)). Glamis Imperial's proposed 5 year minimum of revegetation monitoring to "continue until revegetation success" and the earlier stated maximum of 5 years for monitoring and bond release is inadequate. It is for reasons discussed herein and in earlier comments that we now believe that an independent Revegetation Review Committee is essential to help the County and BLM evaluate the success of revegetation efforts, to better establish meaningful criteria for use by all SMARA projects in Imperial County.

PICACHO MINE REVEGETATION EFFORT HAS NOT MET STANDARDS AT OTHER MINES.

159 157. Harmon requested a tour of the Picacho mine revegetation sites in response to Steve Bowman's letter in the Imperial Valley Press. However, Bowman canceled the appointment and stated that it would not be possible to tour the site until after the comment period has ended. Accordingly our discussion of Picacho Mine revegetation efforts is based on materials provided in the EIS/EIR and Rec Plan in addition to the brief tour with the BLM Desert District Advisory Council in fall 1997. However, having reviewed both the Oro Cruz and Castle Mountain revegetation plans, and visiting the Castle Mountain Mine revegetation sites 3/8/97 and attending a class taught by Franson, we question the assertion of the Imperial Project Rec Plan Attachment A and B conclusions that the more restrictive reclamation standards at other mine sites have been met by the Picacho Mine. That conclusion cannot be supported by a review of Attachment A Sec. 4.3 "comparison of plant species composition". Recall that the revegetation performance standards at the Castle Mountain Mine specify that revegetation success be measured by comparison of density and diversity of perennials only. At Picacho Mine we are informed that although there were a total of 34 species of plants recorded on the revegetation Site 2, only 15 of those species were common to the off-site transects. The dominant species for cover were annuals, while the dominant cover off-site were shrubs. Table 4-2 does not disclose whether the species diversity is for shrubs only or whether it includes both annuals and perennials as suggested by the text at Attachment A p.10. Furthermore, it is inappropriate to assert revegetation success at the Picacho Mine when the "growing period has had significant amounts of rain during two of the three years of the revegetation program"

(Attachment A at 12) followed by a period of lower than average rainfall when no revegetation monitoring data was provided for review. It is precisely the erratic rainfall patterns that necessitate the 10 year revegetation monitoring to assure revegetation performance success. Similarly, a review of Table 3-1 in the Reclamation Plan Attachment B also does not support the suggestion of revegetation success at the Picacho Mine. Both the perennial density and perennial diversity is higher for the off-site monitoring areas than for the revegetated areas at the Picacho Mine. So is the percent of total live cover. Without the full 10 years of revegetation monitoring, the Picacho Mine has not met the performance standards set for other mine sites. Accordingly, the Picacho mine should not be used as a measure for judging revegetation plans and performance standards for Glamis Imperial's proposed Imperial Project. Alternatively, it is not at all unreasonable to set much higher performance standards for density and diversity of perennials for release of revegetation bonding, especially in an area as sensitive as the Indian Pass Road area.

160158. DEIS IGNORES THE IMPORTANCE OF ECOLOGICAL STUDIES ON REVEGETATION IN THE COLORADO DESERT, including studies done in Imperial County. Past studies indicate that vegetative recovery on non-compacted disturbed soils in the Colorado Desert may require 60 years to reach pre-disturbance biomass and up to 180 years for reasonable recovery of pre-disturbance species diversity. This is because the conditions for plant reestablishment may occur only once every 5 or 10 years when rainfall is of sufficient quantity and frequency to allow soil moisture to reach a depth sufficient for establishment of woodland tree seedlings. (Exhibit R: Virginia/Bainbridge, 1987 at 53.) (Exhibit R.) Heavily disturbed soils, such as at mine sites, may take even longer because seeds and rhizobial bacteria and fungi may no longer be present even if soil was salvaged. (Virginia/Bainbridge at 54 and Franson 3/8/97.) It is precisely because the desert trees and shrubs are relatively easy to grow in a nursery and survive well if transplanted with good root development, (Rodgers, Franson, and Virginia/Bainbridge), that more emphasis should be placed on revegetation with transplanted trees and shrubs along wash areas, and that transplanted trees need adequate hand watering during summer months for several years to ensure survival. Additional discussion of transplanting container grown plants vs. direct seeding are found in Exhibits M, N, S, and II.

161159. A Beginner's Guide to Desert Restoration 12/96 Draft copy provided by lead author, Franson, (Exhibit N) states that:

> Desert areas may take centuries to recover from human disturbance without active intervention and restoration work. This is not surprising as establishment in this severe environment is naturally slow and disturbance can make conditions for plant establishment many times more difficult. (p.1.)

Exhibit N was described by Franson as being specific to southern California and the Mojave deserts and provides excellent descriptions of various techniques for seed collection and handling, revegetation techniques including transplanting, container size, protection from herbivory, and post transplant watering. Because the climate in Imperial County is even more arid and has hotter summers than JTNP and Castle Mountain sites, a review of the revegetation techniques used at those sites support our earlier concerns that direct broadcast of seeds and no planned supplemental watering of transplants as planned for the Imperial Project are not likely to be successful especially for restoration of microphyll woodland washes. Techniques used at Castle Mountain may be more successful simply because the requirement to meet revegetation performance standards for release of bonding provides additional incentive to experiment with numerous techniques to find the most effective restoration methods.

162 160. We are including a number of articles on desert restoration as exhibits because County staff have requested that references be submitted as exhibits rather than merely being cited. This request was made to facilitate the use of the EIS/EIR and Reclamation Plan as an informational document which can then be used not only for review of the Imperial Project but as a basis for review of other open pit mine projects or projects requiring SMARA compliance.

163 161. REVEGETATION REVIEW COMMITTEE similar to that required by BLM Castle Mountain Mine ROD Stipulation 24 must be established to interpret information contained in ANNUAL REVEGETATION REPORTS, to advise the County and BLM of actions they might take to increase the success of revegetation efforts and to consider adjustments which should be made to the revegetation standards. Such a Revegetation Review Committee is especially important to ensure unbiased and independent evaluation of the revegetation success, and meaningful comparison to revegetation efforts at other mine sites. The Castle Mountain Mine Revegetation Review Committee:

would consist of three technical experts, including an arid lands revegetation expert, a geologist/hydrologist and an arid lands ecologist; three representatives of the environmental community; and one representative each of the County, the BLM, the State Division of Mines and Geology; and the Operator. (BLM Castle Mountain ROD Stipulation 24 a.)
d. The Operator would make provision for the reimbursement to Committee members of the costs associated with participation in the committee. (BLM ROD Stipulation 24 b.)

164 162. In our earlier comments we pointed out the need for independent review. After review of the Castle Mountain BLM stipulations and the identical San Bernardino County "Conditions of Approval" Conditions 48-55, we believe that any and all future mine operations Reclamation Plans (including Chemgold's Imperial Project) considered for approval in Imperial County should also contain at least the minimum standards required by BLM and other Counties for similar open pit cyanide heap leach mines. This would include the revegetation review committee, minimum 10 year monitoring of revegetation, performance standards for release of the revegetation bond, and forfeiture criteria if the revegetation performance standards are not met. From the perspective of BLM El Centro Resource Area and Imperial County, it may be advisable that a single Revegetation Review Committee be established with only the Operators of the different mines being changed for review of the revegetation efforts at each specific mine.

SOIL SALVAGE PLANS ARE NOT APPROPRIATE TO ENSURE LONG TERM VIABILITY OF SOIL MICROBES.

165 163. Soil or growth medium salvage should be in small separate piles . These materials should be used within 12 to 24 months, not compacted by driving heavy equipment on top of piles, and not stored in deep piles if soil microbes are to be kept alive. Soil microorganisms in the growth medium stored at Castle Mountain Mine were dead after 3 years. Because soil mycorhizal fungi are necessary to growth of desert plants desirable and suitable in mine site restoration, if those present in the salvaged growth medium die, it will be necessary to inoculate roots. Mycorhizal fungi make phosphorus available to the plant for nitrogen fixation and to protect the plant from heavy metal toxicity. If the mycorhizal fungal propagules in the soil are destroyed by improper storage or too lengthy soil storage, then the desert plants which require mycorhizal fungi on the roots cannot get well established and non-VAM plants and exotic weeds (including Russian thistle, bromus grass, and tamarisk) will invade the site. Non VAM plants generally cannot invade undisturbed soils of the desert areas, but VAM plants are the plant community desired to be restored. (Franson 3/9/97 and Exhibit N and JJ for more detailed discussion.) If essential growth medium

characteristics are destroyed before salvaged materials are used, then the soil must be inoculated with cultured mycorhizal propagules.

166 164. Improper soil (growth medium) salvage techniques or overly long storage in large piles may explain why Picacho mine stockpiled soil was not a better growth medium than overburden piles and neutralized leach pads (Rec Plan at 50). Accordingly, soil salvage techniques used by Chemgold and proposed for the Imperial Project should be reevaluated in light of research results at Castle Mountain Mine.

THERE IS NO REFERENCED EVIDENCE FOR SUCCESSFUL ESTABLISHMENT OF LONG-TERM PLANT COMMUNITIES ON NEUTRALIZED LEACH PADS IN HOT DRY DESERTS.

167 165. It is not surprising that some plants would become established on neutralized leach pads shortly after rinsing is complete. This is because the breakdown of cyanide would result in presence of nitrogen which could serve as a nutrient, and because the rinsed leach pads would have a high residual moisture content until they eventually dry out after several years of low rainfall or drought. However, neither we nor Franson are aware of any long term studies indicating long-term (the required 10 year monitoring) survival of plants on dry leach pads after nutrients are depleted. Because leach pads are very porous, we are concerned that survival during long periods of drought would be limited even in areas originally created for ponding. It is these concerns that raise serious concerns about absence of a 1996 Picacho Mine revegetation monitoring analysis from the Rec Plan. Any long-term successful revegetation of leach pads using either direct seeding or transplanting should be cited and/or included in the Revised Draft EIS/EIR.

168 166. MITIGATION MEASURES FOR LOST MICROPHYLL WOODLAND HABITAT ARE INADEQUATE. CDFG adapts its wetland habitat policy to microphyll woodland when evaluating the mitigation measures for the biological effects of projects which may require Streambed Alteration Agreements ((DEIS 4.1.5.3.1 at 4-51), such as is required between the project Applicant and CDFG (11/96 DEIS 4.1.5-15 at 4-62). Mitigation measures included under 4.1.5-15 contain no similar references that we could find in the 11/97 DEIS.

169 167. What is the position of USFWS with respect to the sensitive microphyll woodland habitat? Does the USFWS also use its wetlands habitat policy to evaluate mitigation measures? Does the Service classify microphyll woodland as Resource Category 1 or 2 (Harper 1987 at 8,9)? Based on the CDFG application of wetlands habitat policies, does USFWS require a 10:1 or 5:1 mitigation ratio to offset the temporal loss of mature microphyll woodland and to compensate for possible revegetation failure (Harper at 10) (Exhibit Q)? To what extent do the habitat evaluation procedures upon which the higher mitigation ratios are based affect the proposed loss or temporal loss of almost 100 acres of microphyll woodland? Specifically, would mitigation measures require planting more mature specimens of microphyll trees? If so how would/could this be adequate replacement for the loss of mature microphyll woodland with trees that are many decades old and likely grew in the protection of nurse plants? What evidence is there that planting larger microphyll tree specimens would assure success in regaining the habitat values? Revegetation mitigation measures should require/guarantee that replanting will be done if survival rates fall below a specified amount (generally 80%) (Harper at 10) for the 1,056 transplant seedlings Glamis Imperial proposes to be planted in the permanent drainage diversion area (Rec Plan Table 7 at p. 72). What criteria are used to determine the adequacy of that number (1,056)? Is it really adequate? Revegetation mitigation measures should include "growth milestones" during the revegetation monitoring which would trigger remedial actions at the time a problem became apparent (Harper at 10).

DEIS/EIR CONCLUSIONS THAT MITIGATED IMPACTS OF PROJECT WOULD BE "BELOW LEVEL OF SIGNIFICANCE", THAT IMPACTS WOULD "NOT EXCEED THE LEVEL OF SIGNIFICANCE" AND ARE "NOT SIGNIFICANT" ARE QUESTIONABLE.

170 168. Table S-1, Summary of the potential environmental effects and mitigation measures reveals that the preparers of the 11/96 DEIS found that only the visual impacts related to physical features of the mine operation after mitigation represented "Significant Unavoidable" impacts. Table S-1 states that for cultural resources the level of significance with mitigation "cannot be determined at this time". By 11/97 the DEIS is now identifying significant unavoidable impacts to cultural resources also. Quoting the San Bernardino Sun 4/22/89 discussion of similar findings at the proposed Castle Mountain Mine:

> It is one thing to argue the relative merits and values of preserving the virgin nature of the desert against the need to engage in economic activities such as mining. Such a debate may or may not lead to the conclusion that some environmental disruption is necessary to sustain economic activity. But to argue, as BLM has been doing in this case, that such a massive operation as this can be undertaken with minimal disruption of the desert is ridiculous. ... how can the BLM maintain credibility as an advocate of environmental preservation? (San Bernardino Sun 4/22/89.)

The proposed Imperial Project is much larger than the 900 acre disturbance of the Castle Mountain Mine, and public comments have made it apparent that the conclusion of non significance after mitigation is not widely supported.

171 169. The Reclamation Plan and the discussion of vegetation monitoring in the Draft EIS/EIR at p. 2-48,2-49 contain no provisions for independent monitoring or evaluation of revegetation success. It is imperative that any Reclamation Plan which includes revegetation also include provisions for independent monitoring by a panel of experts that are neither employed by nor selected by the project applicant.

Section 2.1.11.5 Financial assurance

172 170. The original 11/96 Draft EIS/EIR estimated the Project's total reclamation cost of $400,000 and a separate financial assurance of $1.83 million to cover the cost of neutralization of the heap leach pad. The 11/97 Draft EIS/EIR has increased these amounts to an estimate of the visible reclamation cost at $700,000 with a bond for neutralization of the heap leach pad at $2.04 million. Although these amounts have increased, they are not likely to be adequate based on the estimated costs of reclamation elsewhere in Imperial County and at other places in Southern California.

173 171. Although there have been minor changes to the numerical amounts included in discussion of Section 2.1.11.5 Financial Assurance in the 11/97 Draft EIS/EIR, the increased amounts are insignificant and remain woefully inadequate. Furthermore, they appear to ignore the requirements of BLM's published final rule on hardrock bonding under 43 CFR 3809.1-9 with an effective date of March 31, 1997, more than one year ago. The final rule was published in Federal Register Vol. 62, No. 40 at p. 9093-9103 on February 28, 1997 and referenced in our comments on the 11/96 Draft EIS/EIR. Why then were the requirements of the hardrock bonding rule ignored in preparation of the 11/97 Draft EIS/EIR?

174 172. As part of the supplementary information on the BLM final rule for hardrock bonding, the text states that:

in response to the comments regarding bond levels, BLM has amended the rule to require bonds for 100 percent of the amount that would be needed to pay for reclamation by a third-party contractor using equipment from an off-site location. This will ensure that, if the bonded party fails to perform its reclamation responsibilities, BLM will have access to adequate funds through these financial guarantee arrangements to reclaim the lands, and thereby protect the interest of the public, including federal taxpayers. Calculation of the amount is at the operator's expense, and must be certified by a third party professional engineer registered to practice in the State in which the operations are proposed. However, this engineer's certification is not required when the requirement for a financial guarantee is met by providing evidence on instrument held or approved by a state agency." (3809 Final Rule Federal Register Volume 62, No. 40, p. 9094.)

Section 3809.1-9 Financial Guarantees

This section states clearly that obtaining a bond or other financial guarantee is a prerequisite to operating on an unpatented mining claim under a notice or plan of operations. It lists the types of guarantees that are acceptable, and requires that they cover the entire estimated cost of reclamation. It requires that operators report their financial guarantees to BLM and include certain enumerated information with the report. The section also provides for partial release under the guarantees when phases of reclamation are completed, and states the consequences of default or bond deficiency.

Section 3809.1-9 Financial guarantees.
No operator shall initiate operations without providing certification of the existence of the appropriate financial guarantee or conduct operations under Plan of operations without providing the appropriate financial guarantee.

Section 3809.1-3 (d) Each certification [for notice level operations which disturb 5 acres or less] must be accompanied by a calculation of reclamation costs of the proposed activities covered by the notice, as if third party contractors were performing the reclamation after the site is vacated by the operator. Calculation must be certified at the operator's or mining claimant's expense by a third party professional engineer registered to practice within the State in which the activities are proposed. .... The financial guarantee must be sufficient to cover 100 percent of the estimate of the costs of reclamation, as calculated above, required by the state in federal laws and regulations..

175 173. Section 3809.1-9 Financial guarantees for the conduct of operations under a plan of operations. (g) Each operator or mining claimant who conducts operations under an approved plan of operations shall furnish to the authorized officer a financial guarantee in amount specified by authorized officer. In determining the amount of the guarantee, the authorized officer shall consider the estimated cost of reasonable stabilization and reclamation of areas disturbed, including the cost to the BLM of conducting the reclamation, using either contract or government personnel.

(h) For activities conducted under a plan of operations, the financial guarantee must be sufficient to cover 100 percent of the costs of reclamation required by State and Federal statutes and regulations and calculated as if third party contractors were performing the reclamation after the site is vacated by the operator. This calculation must be certified at the operator's or mining claimant's expense by a third party professional engineer registered to practice within the State in

which the activities are proposed, but when the requirement for a financial guarantee is met by providing evidence of an instrument held or approved by a state agency, the certification of costs by a third party professional engineer will not the required. In no case shall the financial guarantee be less than $2,000 per acre or fraction thereof. (See Exhibit RR-98.)

176 174. A simple calculation will reveal that the proposed $700,000.00 proposed cost data calculated to accomplish physical reclamation for the proposed Imperial Project is far short of the approximate minimum $3,200,000 which would be necessary to meet the minimum requirement of $2,000 per acre for the approximately 1600 acre proposed Imperial Project site. Furthermore there is no discussion in the Draft EIS/EIR Section 2.1.11.5 Financial Assurance at p. 2-49 that this would in any way begin to cover the 100 percent cost for reclamation if such activities were conducted by BLM staff or third party contractor using equipment brought to the site from an off-site location. Accordingly, Section 2.1.11.5 must be revised to reflect the BLM requirements as set forth in 43 CFR 3809.1-9 Financial Guarantees which became effective March 31, 1997. Draft EIS/EIR Section 2.1.11.5 should refer reviewers to the Reclamation Plan financial assurance discussion at p. 70 in Reclamation Plan Table 7 and Table 8 at pp. 71-73.

177 175. The Reclamation Plan section 7 Financial Assurance discussion refers the reviewers to Table 7 and Table 8, and asserts that these tables provide "an estimate of the cost of reclamation for the Project" and for the "estimated cost of utilization of the heap". However, the Reclamation Plan for the Imperial Project inappropriately states that "Most of the cost estimated in Table 7 and Table 8 reflect experiences at the Picacho Mine" and other technical sources. (Draft EIS/EIR Reclamation Plan at p. 70.) Referring to the Picacho Mine is inappropriate because those reclamation activities have been conducted to date by staff or persons employed by Chemgold, and do not reflect the cost that would be required if reclamation were to be completed by BLM staff or independent third party contractor. BLM's Hardrock Bonding Rule requires this alternative analysis be presented and costs for non-company compliance with reclamation requirements be provided.

178 176. A review of Reclamation Plan Table 7 reveals no information necessary to calculate the costs for backfill of the West Pit or the Singer Pit. What would be the cost for either BLM staff or a third party contractor to perform the required backfilling of those pits? What are the labor costs involved and what is the cost to bring in the equipment necessary to do the job? While it is true that backfilling of the West Pit and the Singer Pit is planned as a part of the mine operations, there are still labor costs associated for the mining company and there would be costs if the backfilling more left incomplete by the mine company.

179 177. The estimated cost for the removal of the process facility area liner of five thousand dollars seems incredibly low if this were to be done by either BLM staff or third party contractor bringing in equipment from off-site. Similarly the estimate of a dollar a foot to remove 3,978 linear feet of fences at the process facility area including fencing with barbed wire, or removing more than 45,000 feet of other fencing is also inappropriately low if this were to be performed by BLM staff or an independent third party contractor with materials removed off-site.

180 178. The use of the notation N/A under the heading equipment, quantity, or units is inappropriate when one must calculate actual projected costs to pay for 100% of the reclamation costs if done by BLM staff or by a third party contractor. There are no costs provided for the rental or transportation costs for bringing in of heavy equipment or for the hourly costs for either BLM staff or a third party contractor to operate this equipment to provide any of the reclamation that requires heavy equipment, whether it is backfill,

rip/catchment, barricaded haul roads, stabilizing slopes, ripping concrete, removing process liner, loading and hauling concrete, removing fences, drilling and blasting concrete, spreading topsoil, salvaging structures at the maintenance facilities, constructing drainage diversions, grading berms, and/or contouring catchment areas, etc.

181 179. What is the cost for mobilization and demobilization? A review of the Glamis Gold 3/98 Securities and Exchange Commission form 10-K/A should be enough to convince anyone that in addition to making an income from business operations, there are significant costs associated with doing business, particularly an open-pit gold mining business. Among other things these costs include administrative costs, cost for bonding, payments of debts, royalties, insurance, office expenses, defending legal actions, equipment purchases, maintenance and repair. For a project of the size of the proposed Imperial Project, such costs can be considerable indeed. (In fact, Glamis Gold operated at a $8.3 million loss during the past year. (See Exhibit SS-98, Glamis Gold Ltd. 10-K/A form at p. 59.)) Many of these costs are equally relevant to the ability to perform reclamation successfully, and therefore must be included in discussion of financial assurances in the table of costs for physical reclamation. In part, this is because many of the reclamation aspects of this project are intended to be completed before final closure and wash down of the last leach pad, and therefore there will be continuing operations at the proposed project site during reclamation. Many of these costs could be relevant whether the reclamation is performed by either BLM staff or a third party contractor, simply because reclamation requires the use of heavy equipment.

182 180. It is inappropriate to cite a no cost figure for the salvage structures/ facilities category listed under Office/maintenance/parking/emergency power area and powerline/water wells/pipeline in Table 7. Salvage of the structure and facilities will have a cost in terms of both manpower and equipment usage whether these activities are conducted by the project applicant, BLM staff, or independent third party contractor. Accordingly, it is imperative to identify realistic costs for each of these reclamation categories. The estimates for abandoning the wells to State specifications are most likely unrealistically low if to be prepared by either BLM staff or independent third party contractor bringing in equipment from off-site. As for all these activities, the costs are likely to be substantial because this location is remote and equipment will have to be brought in.

183 181. Abandonment of the wells and utilization of the heap leach pad and process area will require independent verification by either the County Environmental Health Department, Public Works Department, or the Colorado Regional Water Quality Control Board. In some cases verification upon approval of completion of activities will require monitoring by more than one agency or entity. What are those costs?

184 182. The cost of constructing drainage diversions is listed as not available because it is part of mining, and therefore at no cost. However, if this is an action required as part of the Reclamation Plan then the actual costs must be included in the event that either BLM or independent third party contractor is required to complete the work as per the requirements of the hardrock bonding rule. Costs for all aspects of reclamation must reflect appropriate labor costs for work by other than company mine employees.

185 183. A more realistic cost must be provided for barricading the haul roads to the East Pit. It is unlikely that 300 ft. of haul road could be barricaded at a cost of only $148 by either BLM staff or independent third party contractor coming from a more distant location.

186 184. There are four different places in Reclamation Plan Table 7 with a category called "load and haul

concrete", but there is no indication as to where the concrete would be hauled or the appropriate method of disposal for this concrete. This concrete disposal discussion should be included and appropriate costs identified.

187 185. Under the Reclamation Plan Table 7 categories for heap leach pads slopes and process facility area is a subcategory called "neutralize". Each category for neutralization asserts that this is part of the chemical reclamation and therefore no cost. Under BLM's new regulations cost must be assigned for an estimate if this neutralization were to be performed by BLM staff or an independent third party contractor. We are uncertain as to how this category in Reclamation Plan Table 7 relates to the information in Table 8.

188 186. This should be clarified in the revised Draft EIS/EIR along with correcting all the other deficiencies related to financial assurances and bonding.

189 187. We include the following information from the Glamis Gold 3/98 10-K/A Securities Exchange Commission Report which appears to indicate that the company would have difficulty providing a liquid instrument to meet the financial assurance bonding requirements by BLM.

> As at December 31, 1997, there is no borrowing capacity available to the Company as the lending institution and the Company have not come to an agreement to renew the line of credit. However, the lender has provided letters of credit for $1,336,000 (December 31 1996-$4,755,000) to provide security for future reclamation costs. (GGL 3/98 10-K/A at p. 90.) (See Exhibit SS-98.)
>
> The Company and its current lending institution have not come to agreement to renew the current line of credit at present time no credit is available to the Company. Management is continuing its dialogue with the lending institution and is also considering new sources of financing. The lending institution has continued to sustain the Company by leaving in place $1.3 million of letters of credit issued as security for future reclamation costs. The Company has an agreement with a bonding company which has replaced letters of credit in the amount of $3.4 million with bonds issued as security for future reclamation costs. (emphasis added. GGL 3/98 10-K/A at p. 60.)

190 188. It is with concern that we note that the company had no line of credit available as of its third-quarter report for 1997 or the 3/98 10-K/A report to SEC. The marginality of Glamis Gold's operations sends a clear signal for caution. These continuing financial difficulties raise serious questions about the ability of Glamis Gold or its newly created wholly-owned subsidiary (Glamis Imperial) of its wholly-owned subsidiary (Glamis Gold, Reno NV) being able to meet the financial obligations for operations of a new Project and/or the ability of the company to provide the required bonding and financial assurances necessary for reclamation of any new surface mining activities in California Desert Conservation Area as per 43 CFR 3809.1-9.

191 189. The experiences with Galactic Resources of Vancouver, British Columbia filing for bankruptcy after pollution escaped from the project site points out the real problems with inadequate bonding and financial assurances. This should be a lesson for all potential permitting agencies, whether they are state local or federal. (See exhibit TT-98. "Bankrupt mine costly to EPA: agency spends $800,000 a month to clean up cyanide wastes. EPA may run out of money to pay for gold mine cleanup., The Denver Post, 24 December 1992.)

FINANCIAL ASSURANCE AND REVEGETATION COSTS PROPOSED FOR IMPERIAL PROJECT ARE UNREALISTIC AND INADEQUATE.

192 190. The 11/98DEIS/EIR 2.1.11.5 states that "Chemgold would allocate funds to post an irrevocable letter of credit for an amount consistent with the calculated physical reclamation cost of approximately $400,000", and an additional $1,830,000 to cover the cost of neutralization of the leach heap (DEIS at 2-48). The 11/97Draft EIS/EIR at Section 2.1.11.5 no longer states the project applicant would post in any bond or line of credit that would be irrevokable. The proposed Reclamation Plan identifies costs for physical reclamation at $399,783 (Rec Plan at 52). 1392 acres of surface disturbance within the proposed mine site, road realignment, production wells and water pipeline, and electrical power metering station and transmission line (S-2) would require reclamation. At the estimated reclamation cost detailed in Table 6 (Rec Plan at 49-52) Chemgold's estimated cost for revegetation/reclamation of the 1392 acres would be $278/acre. A review of Table 6 reveals that Chemgold's estimated costs for physical reclamation include labor. Labor costs include the cost to "broadcast seed" in each revegetation/reclamation area except for the permanent drainage area where the table indicated that 370 seedlings would be transplanted followed by 8 hand waterings over a period of 2 years (Rec Plan at 51). By recalculating Chemgold's figures and eliminating costs for labor, Chemgold's estimated costs for physical revegetation are $31,224 for the entire project or just $23/acre for the seed and transplant seedlings.

193 191. The 11/97 Draft EIS/EIR is only slightly more realistic than the 11/96 version. 11/97 Reclamation Plan indicates a total cost for physical reclamation of $694,504.53. (Reclamation Plan at p. 72.) The 11/97 proposed project indicates the potential for disturbance of 1362 acres which would require reclamation. Based on the figures in the 11/97 Reclamation Plan this would result in reclamation cost of approximately $510/acre. The cost for seed, broadcasting seed, and transplanting seedlings comes to approximately $87/acre. If one adds the cost for making eight trips per plant and hand watering each transplanted seedling the cost for revegetation is increased to $178 per acre. Both of these figures are far short of the estimated costs for revegetation at other desert locations. The total costs indicated in Table 7 and Table 8 in the 11/97 Reclamation Plan is $2,733,477, or approximately $2007 per acre. Although this figure represents the minimum under BLM's new financial assurance bond rule, It is important to realize that the Project mine and process area which comprises approximately 1,571 acres of unpatented mining claims is in addition to the number of acres which would be disturbed for the power lines will field and water lines. It is the entire acreage which must be estimated at the minimum $2,000 for the BLM analysis not merely the area disturbed at the mine site itself. Therefore, the $2,007 for reclamation of the 1362 acres of disturbed land at the mine and process area is not at all adequate to meet the BLM financial assurance requirements under the new rule.

194 192. Also, a careful review of the itemized portion of the tables reveals the the figure is unrealistic in that actual costs would really exceed those listed in the table, particularly with respect to revegetation. One must remember that BLM's new rule requires the cost analysis be made based on the potential for the reclamation and revegetation to be done either by BLM staff or a third party contractor. Accordingly the costs for obtaining seed and growing and transplanting seedlings for used and revegetation, in addition to hand watering transplanted seedlings would likely be far in excess of what the project applicant proposes in these tables if these activities were to be carried out by BLM staff or a third party contractor making periodic visits to the site. In addition, no costs are included for revegetation success monitoring for the years following closure of operations. This cost must be identified.

193. How does Chemgold's planned $278/acre (11/96) or Glamis Imperial's $118/acre revegetation

years following closure of operations. This cost must be identified.

195 193. How does Chemgold's planned $278/acre (11/96) or Glamis Imperial's $118/acre revegetation alone or $510/acre (11/97) compare with other revegetation/reclamation projects for which costs are known? The 11/95 BLM Desert Lands Rehabilitation Workshop was sponsored in part by BLM. The "Yuha Desert Restoration Fact Sheet" (Exhibit KK) by Christina Williams (formerly of the BLM El Centro Resource Area office) estimated the total costs for restoration of desert pavement sites as $8,200/acre; sandy substrate sites as $9,000/acre; clayey mud hills at $75,600/acre. These figures include labor costs and are not unlike the range that we cited at the La Mesa Public Hearing. At that time Harmon quoted a 1993 article by Steve Hartman, CNPS and then a member of the BLM California Desert District Advisory Council. In that article Hartman states that: "One experienced biologist who has done revegetation work told me that a ballpark estimate for revegetation work in the desert is $10,000 to $100,000 per acre, the lower figure being reasonable only is there is easy access to the site and water available for irrigation."

196 194. The revegetation costs for Viceroy's Castle Mountain Mine were originally estimated to be $1750/acre (Franson, 3/7/97 at Restoration class), but costs are now in the range of $3,000/acre (Viceroy's Plath, 3/8/97 at Castle Mountain Mine nursery). These costs do not include labor of the 3 full-time restoration/nursery staff or electrical costs for pumping water and temperature control in greenhouse. (Franson 3/9/97.) Obviously, if the costs of labor for the 3 staff positions is included, the Castle Mountain Mine costs for revegetation would be considerably higher. Franson reports that even with the cost of gold dropping to $330/ounce, and revegetation costs at the present $3000/acre, mining is still profitable for the company because production costs for the heap-leach process are approximately $200/ounce. The $3000/acre for restoration at the Castle Mountain Mine "is not tops yet". (Franson 3/9/97.) The difference in Glamis Imperial's projected cost for revegetation (which are so much less than the estimated costs for revegetation in the Yuha Desert in Imperial County and the costs at the Castle Mountain Mine) raises troubling questions about Glamis Imperial's proposed Reclamation Plan. Why the differences? Both JTNP and Franson cite the need for 22 pounds of pure live seed/acre for direct broadcast seeding, at a cost of approximately $200/pound for pure live seed. By contrast, Glamis Imperial's Rec Plan Table 7 proposes to broadcast only 2.25 quarts of seed/acre. Techniques for proper desert seed collection and storage are included in exhibits DD and GG. Seed collection is not inexpensive because it involves much hand labor.

197 195. The differences in Glamis Imperial's proposed costs for revegetation/restoration are even more perplexing when viewed in light of Franson's statement that "if a company can't afford to do restoration, then it can't afford to do mining". Even at Castle Mountain Mine, Franson states that "only 2 to 3 % of the total mine budget is spent on restoration". (Franson 3/9/97.) The Hog Ranch Mine also found that rinsing, backfilling and reclamation were both affordable and beneficial to the company (Exhibit L). Why should Imperial County even consider approving reclamation plans for projects with lower standards than elsewhere?

SECTION 2.1.12. OTHER ENVIRONMENTAL IMPACT REDUCTION MEASURES

198 196. The purchase of off-site microphyll woodland habitat to replace, even at a ratio of 3:1 for the area lost, does not replace the very important microphyll woodland that is habitat for the deer population and other wildlife at this area. The installation of three wildlife guzzlers off-site in the general vicinity of the Project area and the addition of one more wildlife guzzler within the mine project area after completion of reclamation would likely serve to attract wildlife to this sensitive, newly revegetated area and reduce the potential for revegetation success. (Reclamation Plan Attachment B, p. 3.) Wildlife values are best served by not permitting open pit mining at the proposed project site, not by attracting wildlife to an impacted

area.

199 197. The proposal for compensation and reclamation off-site equal to the area of the unreclaimed East Pit (approximately 165 acres, other places 198 acres) is curious. Does this mean that the project applicant would be required to backfill or reclaim the Picacho mine site which is soon to be closed, in addition to other lands disturbed by mining? Why not simply require any mining operation to reclaim the site of the mine in question, in this case the proposed project site itself?

200 198 .The list of proposed mitigation measures in Section 2.1.12 really has no provisions for long-term monitoring and evaluation to determine the success of any of these proposals. Why? The Applicant desires approval of the proposed open pit mine on America's public lands, so certainly, the American public has a great interest in knowing whether any or all of the mitigation measures are likely to be successful for the long-term future. Long-term is a minimum of 10 to 20 years.

201 199. The Reclamation Plan Attachment B "Monitoring results for Fall 1996, Picacho Mine" points out just how inappropriate it is to compare the proposed reclamation and revegetation plan for the proposed Imperial Project with that of the Picacho mine. Attachment B at p. 1 states that "success as required by the Picacho Mining Reclamation Plan, cited in the Monitoring Program of Mitigation and Measures, is one percent (one third of a plant cover of 3 percent as measured against a standard based on comparable native vegetation).... Density of perennials and diversity is not required." This definition of success is so amazingly low that it seems that it could be achieved without any effort on the part of the applicant, and that time alone would accomplish such a low rate of success. However, it is diversity and density of perennials (especially of microphyll tree species) that is important.

202 200. Attachment B at p. 3 confirms our earlier assertion that new vegetative growth is attractive to the local deer population, and we suspect that adding wildlife guzzlers would only increase the attractiveness of such an area to large wildlife seeking both water and forage. The impacts of other smaller animals were also noted on pp. 3 and 4. It is the low survival rate of plants after 18 months of drought that makes long-term monitoring so important for success of revegetation efforts. We are surprised that a perennial species such as brittle bush is listed as a short-lived perennial at the Picacho Mine site, because on the western side of Imperial County many of the same brittle bushes that were here 20 years ago are still surviving and doing well, despite several periods of drought. Since the western side of Imperial County is at low elevation and usually receives less rainfall than the eastern side of the County, it would appear that brittle bushes should have approximately the same life span in both areas. Please explain observed differences.

203 201. DEIS/EIR discussion of transplanting ironwood seedlings fails to state the size of the root area or depth of the planting pot. What was the survival rate for ironwood seedlings by winter of 1997? At the Picacho Mine site it appeared to be extremely low. Indeed, in the summary of attachment B, it notes that revegetation success during 1996 was not achieved and raises questions about the Applicant's assertion of revegetation success after four growing seasons.

SECTION 2.2. ALTERNATIVES TO THE PROPOSED ACTION

204 202. The West Pit Alternative and the East Pit Alternative are not really considered viable alternatives, or even meaningful alternatives to the proposed project. This is because one would assume that if such a Project were initiated, it would not be many years before the project applicant returned with a proposal to expand the mining operation, just as has been done at other open pit mines in Imperial County. Both

proposals would cause unacceptable damage to archeological resources and cultural values, and to the religious values and practices of the Quechan. Both would also have the same visual and wildlife impacts.

SECTION 2.2.3. COMPLETE BACKFILL ALTERNATIVE

205 203. This alternative, which would result in the complete backfilling of all open pits to at least the grade level, together with revegetation, might make the area visually more acceptable to those who are not archeologists and to those for whom this area is not sacred or important to their religion. The complete backfill alternative would also leave the entire leach pad heap in place. As the Draft EIS/EIR points out, this would not reduce any environmental impacts, although it would reduce some of the significant adverse effects on visual resources by virtue of reducing the waste rock stock piles and the open pit. Once again, the complete backfill alternative would not reduce or eliminate the significant adverse impacts on archeological, cultural, and religious resources and use of the proposed project site. We remind the project applicant and the decision-makers that there is an existing body of Federal regulations and Federal legislation that relates to resource values on lands designated for limited use within the California Desert Conservation Area, and that those other resource values require protection. This has been extensively discussed by BLM's Solicitor, John Leshy, in his 1987 book entitled The Mining Law, A Case in Perpetual Motion.

206 204. Discussion of the complete backfill alternative states that this alternative "would not be an economically viable Project, and would thus not meet the objective of profitably mining the precious metals" (Draft EIS/EIR it p. 2-63). We could find nothing in the Mining Law and nothing in Federal regulations which requires BLM to approve a plan of operations which would make mining economically viable and/or profitable. If a mining company chooses to proceed with plans to develop very low grade ore deposits with extensive overburden, it is not the responsibility of BLM or the public to accommodate and make such a proposed operation profitable. FLPMA Section 103 specifically stated that profitability is not the most important determination in land-use decisions. (See previous discussions related to FLPMA.) That is why validity exams are required prior to patenting and why a validity exam should be required for the proposed project prior to approval of a plan of operations or a Reclamation Plan. A profitable mine operation might be more likely in the Carlin Trend area of Nevada were ore grades are ten times or more richer. (See Newmont Gold 10-K at p.cite.)

207 205. There was inadequate information in the Draft EIS/EIR for the proposed Imperial Project upon which to base any conclusion related to the profitability of the project if complete backfill were to be required as asserted in the Draft EIS/EIR text at p. 2-63. There was no information related to the operating costs of the mine or the projected operating costs of the mine throughout the 20 year proposed life of the project. At DEIS/EIR p. 2-62 and 2-63 financial analyses are based on "Smith 1997" and Applicant Baumann. However, there is no indication as to where one could find this Smith letter and ascertain its contents. This information must be provided in the Draft EIS/EIR for decision-maker and public review of a project on public lands with other important resource values.

208 206. The statement (DEIS/EIR at p. 4-4) that partially backfilling the East Pit would not reduce the economic value of the mineralization and that it would only slightly increase the cost of mining materials at the bottom of the East Pit in the future raises serious questions about the assertion that complete backfilling is not economically feasible.

209 207. The Draft EIS/EIR has failed to consider or adequately consider other mining techniques such as in-situ leaching, tunnel mining, or tunnel mining including transporting the waste rock and material

containing ore to a distant location where mining activities would not create such adverse archeological, visual, religious, or biological impacts. We raise this point not because any of the alternatives can resolve the major archeological, cultural, and religious impacts, but because the Draft EIS/EIR is required to evaluate meaningful alternatives to the proposed project.

210 208. Another alternative which was not adequately discussed, but which must be discussed is the potential for conducting mining operations at another site, possibly an expansion of the existing Picacho Mine in southeastern Imperial County less than 10 miles away or expanding operations at any of the Glamis Gold sites identified in the Company's 3/98 10-K/A Report to the Securities Exchange Commission. Both the ore grade and lesser amount of overburden at the Picacho Mine, or in the vicinity of the Picacho Mine, would appear to make an expansion of the Picacho mine a more economically viable and profitable alternative. The information about the ore grade and overburden at the Picacho mine is taken from information provided by Glamis Gold Limited at their Internet WebSite. Why didn't the company choose to expand the existing Picacho Mine? If there is truly no additional mining potential at the Picacho Mine, an alternative which requires complete backfilling of all pits at that site should be evaluated because the Picacho Mine is operated by another subsidiary of Glamis Gold. Each of the other open pit mine operations in Imperial County has expanded several times. Indeed, the Mesquite Mine currently has plans to expand its operations onto two half sections of land immediately to the north of the mine and on land which was once part of the Chocolate Mountain Gunnery Range.

SECTION 2.2.4. NO ACTION ALTERNATIVE.

211 209. Both the 11/96 and 11/97 Draft EIS/EIR incorrectly assert that the No Action Alternative "would not likely be consistent with the 1872 Mining Act and BLM implementing regulations." The text then goes on to add that the No Action Alternative: "would also generally not be consistent with the BLM Multiple Use policy of making public lands available for a variety of uses, as long as these uses are conducted in an environmentally sound manner, and since the subject lands were not withdrawn for any special use and were open, unappropriated lands when the unpatented mining claims were staked." (Draft EIS/EIR at p. 2-63.) Why is it that the BLM ECRA asserts that mining activities have preeminent status over all other multiple use activities on public lands? This certainly was not the interpretation of the BLM South Coast resource area in making a determination that Kuchamaa or Tecate Peak and Little Tecate Peak should both be designated as ACEC because of the extreme religious and spiritual importance to the Kumeyaay People as is noted in the South Coast resource management plan and record of decision of June 1994. (Exhibit BB-98.) Furthermore, a review of FLPMA Sec. 601 and 103 discussion of multiple use does not support the DEIS/EIR assertions about multiple use. Again, must BLM forever be burdened with the mind-set of preeminent status for mining -- a denial of BLM's Multiple Use policy?

212 210. Our review of the applicable portions of federal regulations, the 1980 CDCA Plan, the Final EIS for that 1980 CDCA Plan, the Mining Law, and even the BLM Instruction Memorandum No. CA-91-192, decisions of the BLM ECRA in denying plans of operation for Peg Leg's Other Leg, the decision of the BLM Idaho State Office as upheld by Administrative Law Judge and a number of IBLA decisions that uphold BLM decisions to declare mining claims null and void does not support the interpretation that BLM must approve a plan of operations for the proposed Imperial Project. Memorandum CA-91-192, which we have been told is now incorporated as part of BLM NEPA requirements (Jack Mills, BLM Sacramento office, personal communication 3/7/98), includes the following text in section B.1.a. The environmental review requirements for open pit mining, alternatives, No Action:

> No Action: This alternative shall mean a continuation of existing management for the area without approval of the proposed action. No Action should address other kinds of existing resource

activities and uses, such as livestock grazing, recreation, or wildlife management. The environmental document should note that a decision to disapprove the mining plan can only be made on a finding of unnecessary and undue degradation; however, No Action is analyzed for comparative purposes since NEPA requires that all reasonable alternatives are considered, even if they are outside the authority of the agency to implement. (BLM State Director, Instruction Memorandum No. CA-91-192, at p. 3. Exhibit CC-98)

We urge the Applicant to review all of the relevant BLM CDCA EIS documents and FLPMA Sec. 103 definition for multiple use.

213 211. Memorandum CA-91-192 Section E.3. Joint Environmental Documents: requires that: "The State Director will sign the Draft and final EIS/EIR documents and ROD." The 11/97 Draft EIS/EIR contains no signature of Ed Hastey, the BLM State Director. What is the current status of the memorandum, and why didn't BLM State Director Ed Hastey sign it? (See Exhibit XX-98.)

214 212. A review of the entire memorandum reveals that the Draft EIS/EIR has simply ignored many of the BLM requirements for preparation of the environmental review required by NEPA for the proposed open pit mine. The failure to follow the guidelines of the instruction memorandum will be pointed out elsewhere in these comments at appropriate places. A review of the 11/97 Draft EIS/EIR for the proposed Imperial Project indicates that this document is one more example of the problems that were detailed to the 12/96 PEER White Paper entitled "Never Mind NEPA: No Laws, No Science, No Problem for the BLM."

> PEER identified several instances of flawed decision-making on the part of BLM, due mainly to the agency's penchant for falsifying key records and neglecting to implement pertinent procedures. The BLM ignores its own policies... and is also guilty of improperly rendering decisions without first considering the potential impacts on other natural resources.....PEER's research demonstrates that BLM staff specialists often violate NEPA procedures by signing off on projects without properly developing and evaluating alternatives." (PEER. 12/96. P. 5.)

215 213. PEER also noted that: "many BLM resource areas and districts fail to address the need to balance competing demands for resources. Rather than fully implementing the tenets set forth in the law, these units prefer to remain more focused on an outdated style of management that places heavy emphasis on maximizing single resource outputs," (PEER, 12/96, at p. 9). In the Imperial Project, the development of open pit mining would be maximized.

216 214. Although PEER's White Paper was really about the BLM forestry program, the general statements about BLM implementation and compliance with NEPA appear relevant with regard to the BLM ECRA review of the Imperial Project in the 11/97 Draft EIS/EIR. Based on our review of the documents related to the Imperial Project, it appears one could substitute here references to timber with references to mining described the BLM ECRA review of mining by this company. PEER found that:

> Aside from the numerous procedural errors inherent in BLM forest planning and Management, PEER's investigation demonstrates that the agency's record of NEPA compliance is poor. At best, the BLM maintains a rather spotty record, with some units conscientiously complying with both the letter and the spirit of NEPA. Other units view the law merely as an impediment to the agency's timber selling activities, and through ignorance, inattention or deliberate deceit undermine or sidestep law. (PEER. 12/96 at p. 15.)
>
> Contrary to NEPA requirements, PEER discovered that a standard operating practice for BLM is

to approve a proposed timber sale -- and presumably let contracts -- prior to the completion of archeological and sensitive species surveys. This is a highly inappropriate practice because environmental impacts and management alternatives cannot be adequately analyzed without having access to completed information surveys before decisions are made." (Emphasis in original.) (PEER. 12/96 at p. 20.)

217 215. "PEER determined also that potential environmental impacts are frequently understated and addressed after the fact." (PEER. 12/96 at p. 20.) These PEER comments seem to apply to ECRA's handling of the proposed Imperial Project reviews and past activities that the Picacho Mine based on its EIR documents.

218 216. Elsewhere in these comments, we have detailed places in the Draft EIS/EIR where the text of the CDCA Plan and applicable federal regulations related to mining were selectively quoted. Important text was omitted. For example, the CDCA Plan of 1980, Table 1. Multiple-use Class Guidelines (p. 18) for mineral exploration and development in Class L lands indicates only that "location of mining claims is nondiscretionary." There is no indication that BLM has a nondiscretionary requirement to approve all plans of operation that are submitted for proposed mining projects, nor any record that all POOs have been approved or that BLM has a mandate to approve Plans of Operations to assure that mining be profitable.

219 217. One aspect of the discussion of No Action Alternative that should be considered in the Draft EIS/EIR is discussion of withdrawal of the area from mineral entry for the preservation of religious sites and religious values and expanding the area of the existing Indian Pass ACEC similar to the kind of protection that was afforded for the Kuchamaa ACEC as described in BLM's 6/94 South Coast Resource Management Plan and Record of Decision, (Exhibit BB-98).

SECTION 2.2.5. BLM PREFERRED ALTERNATIVE

220 218. The public has repeatedly expressed concern about BLM's choice of a preferred alternative which was the largest of all the proposed mining projects and the one with the most significant impacts to the largest area. Because there were 425 comment letters and numerous comments-of-concern expressed at two public hearings in response to the 11/96 Draft and EIS/EIR for the proposed Imperial Project, it should have been painfully obvious to the BLM that this was an extremely controversial Project. Accordingly, we believe it was inappropriate for BLM to state a preferred alternative for the Imperial Project prior to receiving public comment on the 11/97 Draft EIS/EIR. Indeed, BLM Needles Area Manager, Molly Brady(personal communication), indicated that BLM had received permission not to identify any preferred alternative for the proposed Ward Valley low level nuclear waste dump site or for the Fort Irwin expansion proposal, because the agency knew that these were extremely controversial projects.

221 219. Section 2.2.5 references Chapter V, Section B.2.b. of the BLM NEPA Handbook. What is most significant about this reference to the BLM NEPA Handbook is the information that was omitted. We cite the complete text with respect to externally initiated proposals:

> for externally initiated proposals, i.e., when the BLM is reacting to an application, the BLM selects its preferred alternative unless another law prohibits such expression (516 DM 4.10A). This means that if the BLM has a preferred alternative, it must be identified as such in the Draft. If BLM does not have a preferred alternative or desires to issue the Draft EIS without identifying the preferred alternative, approval must be obtained from OEPR and the Solicitor's Office. The selection of the preferred alternative should be based on the environmental analysis as well as

consideration of other factors which influence the decision or are required under another statutory authority. (BLM Handbook H-1790-1, NEPA Handbook at p. V-8.)

222 210. The text of the NEPA Handbook clearly states that BLM does not have a mandatory obligation to state a preferred alternative in all situations and that other factors which influence the decision are appropriate to be considered. To state a preferred alternative for the proposed Imperial Project has created a great deal of apprehension and anxiety on the part of members of the Quechan Indian Nation as well as large numbers of the general public, in addition to other governmental agency concerns. For BLM to continue to state a preferred alternative of the most damaging of all the proposals for the open pit mine project (after reviewing and accepting the discussion of the cultural resources in the Technical Appendix L and having been engaged in the process of consultation with members of the Quechan Cultural Committee) raises serious questions about the bias of BLM and the nature of the document that is being prepared for decisionmakers. To the public, it says that BLM has already made a decision without awaiting public input. To the Quechan it says government documents and assurances and memoranda of understanding are empty words not to be trusted.

223 211. One of the purposes of NEPA is to ensure that citizens can voice their opinions about BLM Management, and that those citizens who choose to participate in the process, in turn, have a right to expect that the agency will consider their concerns in formulating project decisions. By restating BLM's preferred alternative as the largest of the proposed alternative mining plans in the 11/97 Draft EIS/EIR, BLM is effectively sending a message to the concerned citizens that their views will not be considered because a decision has already been made that the BLM will approve the applicant proposed mine project on public lands.

SECTION 2.3 ALTERNATIVES ELIMINATED FROM DETAILED CONSIDERATION.

224 212. It is inappropriate that so many alternatives were deleted from discussion, because the main criteria seems to be profitability for the mining company. Based on the mine profitability criteria, Alternatives which truly minimize the impacts of the proposed mining operation were apparently all dismissed from further consideration.

SECTION 2.3.1.1 ALTERNATIVE MINING LOCATIONS.

225 213. The Draft EIS/EIR at p. 2-65 states that an alternative mine location was dismissed from consideration because there was no actual location to consider. Glamis Gold operates at two other sites in California and at two sites in Mexico. (GGL 10-K/A. Exhibit SS-98.) Why was no consideration given to a potential expansion of the existing Picacho Mine that is operated by Chemgold approximately 10 miles to the Southeast of the proposed Imperial Project? It is our understanding that the Picacho Mine has already expanded at least twice: opened a new pit, and opened a new heap leach pad. The ore deposits at the Picacho Mine, according to the Glamis Gold Internet information, are richer and require the removal of less overburden than that of the proposed site of the Imperial Project. Has the company performed extensive exploratory drilling in the vicinity of the existing Picacho Mine? If so, what the results of the exploratory drilling? How many of the mining claims, if any, are open and held in the name of the company or of the applicant Steve Baumann in the vicinity of the existing Picacho Mine? By vicinity, we mean within several miles of the existing Picacho Mine. We raise this question because we have reviewed in the hundreds, if not thousands, of mining claims (either open or abandoned) held by Glamis Exploration, Glamis Gold, or Glamis Imperial, Steve Baumann, for several miles in all directions of the proposed Imperial Project on Indian Pass Road. The Glamis gold 3/98 10-K/A asserts that the company

has 100% interest in 10,630 acres of land in eastern Imperial County. The revised Draft EIS/EIR must include discussion of the potential for expanding the existing Picacho Mine, and the results of any exploratory drilling surrounding the existing Picacho Mine, and the reasoning why the company is not now pursuing any attempts to expand its operation at that site. Clearly, such an alternative could meet the basic objectives of the Proposed Action "to profitably recover as much precious metals within the proposed mine and process area as possible" (Draft EIS/EIR at p. 2-65), although clearly location of the mine site would be different. However, since a wholly-owned subsidiary of a wholly-owned subsidiary of Glamis Gold would still be the operating company, the objective of profitability for the company at another location could be achieved if the price of gold were higher than it is today. Have all claims been abandoned and all plans for exploratory drilling been abandoned in the Picacho area?

226 214. Although the Draft EIS/EIR for the proposed Imperial Project dismisses alternative mining locations from serious consideration and discussion, we note that the Technical Appendix for the Soledad Mountain Project in Kern County, California Draft EIS/EIR Vol. 4 Appendix IV includes discussion of 40 mining districts and map showing their location in the Counties of Tulare, Kern, Los Angeles, San Bernardino, Inyo, and Riverside. Why is such information required in the preparation of a Draft EIS/EIR for a proposed mining Project in one BLM resource area but not in another? Shouldn't the Imperial Project Draft EIS/EIR have included at least a discussion of other potential mining areas within Imperial County, especially since there is mining occurring or mining that has occurred within three other areas of Southeastern Imperial County including one mine operated by Chemgold, the original project applicant and now "sister" company?

SECTION 2.3.1.3. ALTERNATIVE MINE FACILITY LOCATIONS OUTSIDE THE PROJECT MINE AND PROCESS AREA.

227 215. The discussion in the Draft EIS/EIR for this Section is inadequate because it does not consider any meaningful site away from the proposed project mine and process area. An appropriate site would be the existing Picacho Mine or American Girl Mine. There are existing leach piles at the Picacho Mine which could be used, or expanded, and waste rock rather than being stock piled into 300 ft. high piles could be used to backfill the existing open pit at the Picacho Mine. The Draft EIS/EIR apparently interprets the word "feasible" to mean the one which adds the least additional cost to the project, and considers feasibility as only "economic feasibility". We interpret the word feasibility to mean physically possible in order to reduce the environmental impacts of the proposed mine project on cultural, religious, visual, recreational and biological resources of the Indian Pass Road area. Discussion in the Draft EIS/EIR for this alternative site location for mine facilities failed to consider any site which would or could minimize impacts on the resources of major concern for the proposed project. The alternative discussed in the Draft EIS/EIR "would not substantially reduce the effects of the project on either the Indian Pass-Running Man ATCC (which would require moving these features at least (1) additional mile), or the significant, unmitigable, adverse impacts on visual resources." (Draft EIS/EIR at p. 2-67.) By contrast, evaluation of moving the proposed process facilities and waste rock stockpile to the existing Picacho Mine would result in somewhat reducing, but not completely eliminating the effects of the proposed project on both the Indian Pass-Running Man ATCC and, significant, unmitigable, adverse impacts on visual resources along the Indian Pass Road area. Underground mining and all other operations of the proposed mining being removed to another existing, or abandon mine would further reduce the impacts. However, underground mining remains unacceptable to the Quechan who view the land is sacred not only at the surface, but beneath the surface.

228 216. Thus, the revised Draft EIS/EIR should give serious and meaningful consideration to tunnel

mining together with the use of the Picacho Mine, the Mesquite Mine, or the American Girl Mine as alternative sites for leach pad operation and waste rock stock piles, preferably the Picacho Mine, since these facilities are already operated by a subsidiary of Glamis Gold. In addition to being appropriate sites for such facilities, the use of each one of these other existing mines could serve to meet the requirements of reclamation of another site disturbed by mining activities. An alternative to the use of underground mining with processing located at a site away from the proposed project area would be the use of underground mining together with an alternative process such as vat leaching.

229 217. Economic considerations, in terms of profitability for the mining company, should not be the only determiner of feasibility. Indeed, any additional cost related to the transport of materials could readily be translated into increased numbers of employment opportunities, something which the project applicant states is a positive benefit to the County. The Draft EIS/EIR a p. 2-68 states that although there would be potential additional environmental effects from using any of the other existing open pit mine sites, it notes that "none would likely be increased to the level of significance".

230 218. The Draft EIS/EIR at p. 2-73 appears to misrepresent the minimum ore grade quantities of ore that are necessary to make underground mining economically feasible. The text suggests that the minimum ore grade is "measured in ounces of gold per ton of ore". No reference is given for this unsubstantiated statement. What is the reference, what is the minimum ore grade, and what is the quantity of ore necessary to make underground mining economically feasible? Without providing information on the mineral ore grade at the proposed project site and quantities of anticipated ore, and description of the ore zone or ore zones, how can the public and decision-makers reach any conclusion about the economic feasibility of underground mining at the proposed project site?

231 219 The 1994 Final EIS for the Oro Cruz Operation of the American Girl Mining Project (in the Cargo Mucacho Mountains in Imperial County south of the proposed Imperial Project) includes considerable discussion of the proposed underground mining operations. (See Final EIS for the Oro Cruz Operation at pp. 35-38. Submitted as Exhibit FF-98.) That document describes the ore zones, their depths, their widths, and their heights. "Widths of high-grade ore zones vary from five feet to greater than 30 feet with grades typically graded at 0.25 oz./ton gold. The high-grade zones are typically enveloped by a halo of lower grade mineralization." (Oro Cruz Final EIS at p. 36.) This Oro Cruz ore grade is only a fraction of the asserted minimum ore grade necessary to make underground mining feasible according to the Draft EIS/EIR for the Imperial Project p. 2-73.

232 220. The Oro Cruz operation was proposed to have a three-year life for the underground mining activities. It is further asserted that the Oro Cruz underground mining operation would yield 75,000 tons of waste rock during the development stages and 500,000 tons of ore would be mined during the production stages. (Oro Cruz Final EIS at p. 35.These are the correct figures from the EIS/EIR!) This is just a small fraction of the proposed 150 million tons of ore proposed to be mined at the Imperial Project and the up to 300 million tons of waste rock. (Imperial Project Draft EIS/EIR at p. 2-3.) The Imperial Project proposes to mine more than three times as much ore as the Oro Cruz underground operation and 4,000 times as much waste rock as the Oro Cruz operation! What is the explanation then for the statement in the Imperial Project Draft EIS DIR at p. 2-73 which asserts that the minimum ore grade and quantities at the proposed Imperial Project site are not sufficient to make underground mining techniques economically feasible when the much smaller quantities of gold are feasible to be mined using underground techniques at the Oro Cruz site? Both the discussion of the ore grade and quantity of deposit to be mined by underground techniques that the Oro Cruz operation suggest that the statement in the Imperial Project Draft EIS is either inaccurate or misleading or both.

233 221. We further note that the underground mining at the Oro Cruz operation includes a plan for partial backfilling of the underground pit to prevent surface subsidence. (Oro Cruz Final EIS the p. 37.) (Text of underground mining operations at the Oro Cruz Project is included as Exhibit FF-98.) Not only would partial backfilling of the underground pit prevent surface subsidence, it would also reduce the amount of waste rock pile at the surface and minimize the visual impacts. It is interesting to note that for the Oro Cruz operation the amount of ore that would be mined during production stages is more than six times as much as the amount of waste rock that would be mined during development stages. By contrast the Imperial Project would remove twice as much waste rock as ore mined. A comparison of the two mining projects raises serious questions about both the techniques and the viability of the proposed Imperial Project. Why would any prudent person choose to expend energy, money, or time exploring and/or attempting to develop an ore deposit with as low-grade ore (0.016 oz./ton according to Glamis Gold Ltd-Reserve Estimates on Internet WebSite) as at the proposed Imperial Project site?

234 222. We are unaware of any federal regulations or any requirements in BLM's CDCA Plan for 1980, or any requirements in any BLM Handbook Manual which require that BLM only consider or approve only a plan of operations that would make mining profitable for a mining company. If there is such a mandatory requirement for BLM, what is it? Please state the specific requirements by code or document section and include the full unabridged text. How does such text compare with other CDCA and FLPMA requirements and BLM/Native American Memoranda of Understanding?

SECTION 2.3.1.4. ALTERNATIVES TO THE RELOCATION OF INDIAN PASS ROAD.

235 223. Discussion in the section is flawed because, once again, it relates only to the profitability for the company rather than practical feasibility in an attempt to reduce the environmental impacts. The road should be left intact, and serious consideration should have been given to a project proposal which did not require the realignment of Indian Pass Road and the disturbance of that additional important habitat as well as loss of a visual resource of considerable beauty.

SECTION 2.3.2.1. ALTERNATIVE MINING TECHNIQUES.

236 224. The 11/97 Draft EIS/EIR bases its consideration of underground mining technique on profitability to the company rather than feasibility in an attempt to reduce the adverse environmental impacts on archeological, cultural, religious, and visual resources of the Indian Pass Road area. If the ore grade used is too low and costs are too high, then clearly mining is not profitable at this site and the company has made an inappropriate and ill-advised business decision to continue to pursue this project at this place and at this time. Once again, it is not the responsibility of BLM or of the American public to make mining profitable on public lands, particularly where there are other important resource values, and where both BLM and the mining company either did or should have known about the other resource values and the nature of the conflict that would arise if proposals for the project were to continue for this site. The existence of the nearby Indian Pass ACEC should have alerted BLM to the need for a more comprehensive Environmental Assessment for all proposed preliminary test drillin rather than let the applicant set the stage for piecemealing in the future. A cultural resource discussion of small isolated sites would have revealed the rich abundance of significant cultural resources at the proposed project site. Former BLM ECRA archeologist, Pat Weller, states that she had advised the BLM of important cultural resources in the proposed mine area early on, but her concerns were largely ignored.

237 225. The Draft EIS/EIR at p. 2-74 states that no examples of in-situ leaching were found for precious metal deposits. However, the EPA's 9/95 "Profile of the Metal Mining Industry" Exhibit 9 indicates that

in-situ mining is an experimental process being used for gold and silver mining. The revised Draft EIR/EIS should include discussion of in-situ gold mining where it has been used and with what results and/or what problems. EPA would not list such a process if it had not been used, or were not being used. Again, we are not advocating an in-situ process at this site because of its conflict with Native American religious values. The mining industry needs to be informed of new technological processes in order to prepare a complete EIS/EIR for public and decision maker review.

238 226. Why is the feasibility of alternative techniques and alternative locations based on a gold price of $400 per ounce? (Draft EIS/EIR at pp. 2-73,2-74,2-75.) It has been quite some time since the price of gold has been $400 per ounce. Recently, the price of gold has been in the range of $280 per ounce. Was the entire proposal for the Imperial Project based on the assumption that the price of gold would remain at $400 per ounce? Why wasn't the 11/97 Draft EIS/EIR revised to reflect the existing price of gold? Where in the 11/97 Draft EIS/EIR is it stated what the base price of gold per ounce was for use in doing the calculations of economic feasibility for the proposed Imperial Project? The existing price of gold must be used as a basis for evaluation in a revised Draft EIS/EIR and in preparation of the validity exam.

SECTION 2.2.4. NO ACTION ALTERNATIVE.

239 227. The No Action Alternative is the only Alternative which is acceptable at the proposed open pit mine site on Indian Pass Road because of the importance of the other resource values on public lands. No Action Alternative is the alternative which will provide negligible environmental impact, the least impairment of archeological, cultural and religious values, and the greatest benefit to the greatest number within the public, both for the present and for the future. The Draft EIS/EIR does not adequately or meaningfully evaluate the No Action Alternative. We recommend approval of the No Action Alternative. The Mining Law has been effectively amended by FLPMA and BLM, Executive Orders and Memoranda of Understanding and directives related to Native American religious uses.

240 228. Based on the archeological, and cultural, religious, and visual resources which would have significant unmitigable impacts even after mitigation, and because the archeological, cultural and religious values are so extremely important in this area, we further recommend that the area be immediately withdrawn from mineral entry and included in an expansion of the nearby already designated Indian Pass Area of Critical Environmental Concern. Alternatively, we recommend withdrawal of the area from mineral entry in order to protect and preserve for both present and future generations the archeological, cultural, and religious values of the area and that the area be designated as a National Monument . By "area" we mean not only the proposed project site, but also a substantial area of land surrounding the proposed project site in all directions, an area whose boundaries would be recommended by archaeologists and members of the Quechan Indian Nation and its Cultural Committee.

ENVIRONMENTAL EFFECTS OF IMPERIAL PROJECT

SECTION 3.3. HYDROLOGIC RESOURCES

SECTION 3.3.1. SURFACE WATERS

241 229. The 11/97 Draft EIS/EIR states that several small, isolated, ephemeral water seeps are located "Northwest to Southwest" of the groundwater production area, in the vicinity of, or adjacent to, the Algodones Dunes approximately 5 miles from the groundwater production well area. The text goes on to

state that the source of water for the seeps has not been identified in any hydrologic study. Without providing any information as to elevation of the land surface at the site of, or in the vicinity of the seeps, how is it possible to reach the conclusion that these seeps are unrelated to the groundwater resources and vicinity of the production wells? What is the elevation of the seeps, and what is the elevation, in terms of feet above mean sea level, of the groundwater resource at the site of the production well? What is the gradient of the groundwater flow from the project area toward the Algodones Dunes? Where are the seeps in relation to this groundwater flow? Remember: it is not the surface elevation, or topography that is important in terms of groundwater; the groundwater levels should be expressed in terms of feet above mean sea level (AMSL).

SECTION 3.3.1.1. SURFACE FLOWS

242 230. The 11/96 Draft EIS/EIR presents the catchment areas and peak flows for each of the four washes by giving basin area in terms of acres and indicating four washes or four basins (Table 3-2: Estimated Peak Runoff in Washes through the Project Mine and the Process Area). By contrast, the 11/97 Draft EIS/EIR Table 3.2 with the same title includes five columns under the heading "Peak Runoff by Diversion" and includes what is now described as five catchment basin areas, but this time the area is reported in square miles. In the paragraph preceding the 11/97 Draft EIS/EIR Table 3.2 reference is made to "local catchment areas for these four washes...(See Figure 3.7)", however Table 3.2 shows five catchment basin areas. Why doesn't Table 3.2 match the written text and the information provided in Fig. 3.7? Which is correct? Why aren't consistent units of area used? Revised DEIS/EIR should use consistent units of area.

243 231. The estimated 100-year/24-hour precipitation is estimated to increase from 3.5 inches (11/96 Draft EIS/EIR at p. 3-11) to 4.8 inches (11/97 Draft EIS/EIR at p. 3-13). Why? Additionally, when the 500 year/24 hour storm event precipitation is not available, how is it possible to determine the peak runoff by diversion for each catchment basin area except the Singer Pit area in the 11/97 Draft EIS/EIR at p. 3-13? What is the source for the information on the 500 year storm events?

SECTION 3.3.2. GROUND WATERS

244 232. The Draft EIS/EIR describes the project as being located within the Amos-Ogilby-East Mesa groundwater basins of approximately 860 square miles. EIS/EIR Fig. 3.10 depicts the Amos-Ogilby-East Mesa groundwater basin and denotes the internal boundaries of three sub-basins. As noted in the technical appendix for hydrology, "The Imperial Project lies within the Ogilby Valley Basin which is a northwest trending, elongated area of about 220 square miles, which lies in the southeastern portion of Imperial County, CA" (Appendix E-1 at p. 7). This is considerably smaller than the area of the entire combined three groundwater basins.

245 233. Various documents related to the American Girl mining operation state that "Regional groundwater recharge in the Imperial Valley is controlled by the Colorado River." "Groundwater elevations indicate that recharge is active west of Pilot Knob and as a result of leakage from the All-American and Coachella canals." (American Girl Final EA/EIR at p. 4-22.)

246 234. The Montgomery Watson study describes groundwater recharge in the Sand Hills sub region which includes the Amos and Ogilby basins as being primarily from the Colorado River. Montgomery Watson includes the Amos and Ogilby basins as being within the Sand Hills Subregion according to figure 5-1 at p. 5-3. Text at p. 5-29 suggests that where there is good quality water and in the available wells

"good quality Colorado River recharge would predominate".

247 235. An important source of groundwater recharge to the study area is the Colorado River. On its current course, the Colorado River provides infiltration recharge which supplies the study area with underflow at various locations. This surficial recharge supply is augmented, especially in the shallow aquifers, by the importation of Colorado River water for irrigation. Seepage from the many conveyance channels and unlined canals has provided significant sources of local and regional groundwater recharge. .... Underflows from tributary areas are believed to be small compared to recharge resulting from imported Colorado River water (Loetz, et al., 1975). .... Direct aquifer recharge due to infiltration of precipitation is a relatively minor source. Sufficient precipitation to provide direct recharge is believed to occur only along the higher alluvial slopes of the mountains bordering the Imperial Valley to the Southwest. (Montgomery Watson, 1995, at p. 5-23.)

248 236. In addition, there has been a gradient reversal of the groundwater flow toward the Gulf of California due to the Mexican pumpage to the south of the international border where several hundred wells have been installed since the completion of the All American Canal. Seepage from the All American Canal resulted in the creation of a mound of groundwater below the Canal. Originally this resulted in a flow toward the Salton Sea, but as a result of additional pumpage in Mexico the flow gradient has changed. It is uncertain what the long-term consequences of lining of the All American Canal will be and how this will affect the portion of the groundwater basins where the proposed mine project wells would be located. (Elston Grubaugh, communication 3/9/98.) Discussion and analysis of this information must be included in a revised Draft EIS/EIR.

SECTION 3.3.2.1. GROUNDWATER QUANTITY

249 237. We question the appropriateness of using the average annual rainfall at Gold Rock Ranch as being the appropriate figure for rainfall at the proposed project site. The Draft EIS/EIR at p. 3-23 describes the Gold Rock Ranch as "neighboring". However, Figure 3.10 makes it appear that Gold Rock Ranch is approximately 10 miles to the SW. By traveling up Ogilby Road, it is apparent that Gold Rock Ranch is truly out in the open desert, not surrounded by mountains as is the proposed project site. Therefore, Gold Rock Ranch is not subject to the effects of orographic rainfall as is the proposed project site on Indian Pass Road. The EIS/EIR states that Glamis Gold acquired the mining claims in the Indian Pass Road area in the 1980s, presumably with the hopes of establishing an operational gold mine. Why then was no rainfall data collected from a location on the proposed mine site? This is particularly confusing when one realizes that Chemgold applied for and received a Reclamation Plan approval for exploratory drilling from Imperial County in 1991. If the County and BLM intend to require meaningful information about rainfall, potential flooding, and potential problems with drainage and runoff, they must require the collection of onsite rainfall data or data from the immediate proposed project vicinity area. Acquiring such information is not expensive. It requires only the placement of a plastic rainfall gauge and monitoring after potential rainfall. In most years, that means very little monitoring because there is truly very little rainfall. In these desert areas it is easy to determine when there is the potential for rainfall in southeastern Imperial County.

250 238. Chemgold's 10/91 Final SEIR for Picacho Mine is also interesting because 12 years after mining was begun at the project site, the project applicant apparently still was not collecting climatic data on site. The 10/91 Draft SEIR gives the annual rainfall as approximately 2.6 in./year based on data from the

University of Arizona. There is no reason why a company which has enough money to operate a cyanide heap leach mine profitably does not have enough money to put out a plastic rain gage and check levels after each of the infrequent rains in order to measure rainfall on site.

251 239. The information in EIS/EIR Table 3.3, data from the test wells drilled by the project applicant, should include the elevation of groundwater in AMSL so that the information from the wells along Indian Pass Road can be compared to other wells in Appendix E-1, Table 4.1 "Imperial Valley groundwater wells" at p. 10. There is inadequate information in the EIS/EIR to calculate groundwater elevations AMSL for any of the wells in the proposed project area or along the Indian Pass Road. In any event, the public and decision-makers should not be expected to make these calculations. Why wasn't the information in Appendix E-1 Table 4.2 giving static water elevation in feet AMSL for alluvial piezometer and monitoring wells included in the Draft EIS/EIR so that reviewers could better understand the relationship between groundwater in the proposed project vicinity and along the Imperial Pass Road in relation to other wells in the sub-basin and in the Amos-Ogilby Basin? This must be corrected in a Revised Draft EIS/EIR.

252 240. Appendix E-1 at p. 20 states that the transmissivity values of alluvial deposit in the vicinity of the production well were calculated to range from about 7,200 gallons per day per foot (965 square feet per day) to 42,508 gpd/ft. (5,696 square feet per day). This is approximately a six-fold difference. What is the significance of this? And what are the consequences if the transmissivity is closer to either extreme of this estimate?

253 241. As always, we are reminded that when USGS used computer modeling of the Ocotillo-Coyote Wells Groundwater Basin, there was an optimistic assessment of transmissivity values throughout the alluvial basin. However, within five years of pumping in the southern portion of the basin it was painfully apparent that the transmissivity values for the southern portion of the basin were not the same as in the portion of the basin (4 miles away) which received the recharge from the mountain canyons. In one well, where the USGS had estimated that pumping 100 acre-feet per year would have no significant impact on the water level, five years of pumping caused the water table to drop almost 70 feet in that well, and approximately 30 feet in a well about 1,000 feet away. Obviously, the results from short duration draw-down tests do not always accurately reflect the impacts of long-term, or continuous pumping. Based on limited information available from the Ogilby basin, what if any assurances are there that projections about the consequences of groundwater pumping from the proposed production well or wells are even remotely accurate? Might these Draft EIS/EIR estimates for the proposed Imperial Project have errors of a magnitude similar to that of the USGS study of the Ocotillo-Coyote Wells Basin?

254 241. We raise this concern about the historic problems in the Ocotillo-Coyote Wells Groundwater Basin Imperial County which led to 20 years of litigation because Glamis Gold is facing litigation related to the impacts of its groundwater pumping and usage at its Rand Mine in Kern County, CA. Accordingly, we believe that the following information from the Glamis Gold Limited 3/98 10-K/A filing with the Securities and Exchange Commission should not be ignored by those reviewing the Draft EIS/EIR for the proposed Imperial Project to be conducted by one of its subsidiaries.

> The [Glamis Gold] Company is defending an action, initiated on September 22, 1995 against Rand and Glamis Gold, Inc. by Rand Communities Water District (the "Water District") in the Kern County, CA Superior Court for declaratory and injunctive relief. The Water District claims that the groundwater basins from which it draws its water is in the state of overdraft due to Rand pumping water from such basins in excess of that to which it is entitled at Law. The Water

District is requesting a judicial determination as to the amount of water to which Rand is entitled for used in its mining operations and it also requested a temporary restraining order, a preliminary injunction and a permanent injunction to greatly reduce Rand in its current and planned use of water pumped from the groundwater basin, alleging irreparable injury to the Water District and to its customers. (GGL 3/98 10-K/A p. 43.)

Glamis Gold is attempting to negotiate a settlement. However, a court date is set for April 20, 1998.

255A242. In addition, a private individual filed a legal action against Rand and Glamis Gold in February 1996, claiming that Rand is extracting more water from the groundwater basin, which is the subject of the Water District action, than it is entitled to by law and that such pumpage is causing a depletion of groundwater available in the well which he uses for pumping.

PROPOSED MINE PROJECT WILL CREATE A LOCALIZED CONDITION OF GROUNDWATER OVERDRAFT

255B242. The gradient recharge of the proposed groundwater well field is estimated to be between 90-900 acre-feet per year (Draft EIS/EIR at p. 3-23). The estimated groundwater pumpage from the well field is approximately 1200 acre-feet per year (Draft EIS/EIR at p. 2-3). Thus, estimated pumpage exceeds the estimated localized upgradient recharge by an estimated 300-1110 acre-feet/year. This means that the localized overdraft is between 300-1110 acre-feet/year. A proposed estimated pumpage of 1200 acre-feet/year and a 20 year project pumpage of cumulative 24,000 acre-feet/year would result in a projected localized overdraft of 6,000-22,200 acre-feet in the vicinity of the proposed groundwater well field. This is not an insignificant overdraft, and represents a significant percentage of the recoverable groundwater in storage in this portion (the Olgiby portion) of the groundwater basin. It is inappropriate to describe the impact of groundwater pumpage for the proposed project as a proportion of the recharge for the entire Amos-Ogilby-East Mesa Basin (Draft EIS/EIR it p. 4-21), because there is only limited recharge upgradient of the proposed production well.

256243. Not only is there limited recharge up gradient from the proposed well field in terms of potential recharge and infiltration from run off from precipitation in the mountains, but that historic infiltration resulting from seepage of the Colorado River water flowing through the unlined All American Canal and increasing groundwater in storage with a gradient toward the Salton Sea has been altered by increased pumpage on the Mexican side of the international border which has resulted a changing gradient of groundwater flow from the All American Canal toward the Salton Sea to what is at present a groundwater gradient toward Mexico and the Gulf of California (Elston Grubaugh, IID, personal communication 3/9/98). It has been estimated by Grubaugh that the groundwater levels in the Amos Ogilby basin have been declining since a majority of the seepage Colorado River water from the all American Canal (operational since 1941) is now flowing toward Mexico rather than toward the Salton Sea. The natural declining groundwater levels in the Amos Ogilby basin as a result of changes in the direction of seepage flow from the All American Canal must be evaluated in a revised Draft EIS/EIR.

257244. It is equally inappropriate to project the 20 year proposed mine project estimated pumpage of 24,000 acre-feet of water as a proportion of the estimated usable and recoverable water from the entire Amos-Ogilby-East Mesa Basin. To do so understates the impacts of the proposed pumping in the local vicinity. A revised Draft EIS/EIR must be corrected to accurately reveal the impact of the estimated 24,000 acre-feet pumped during the projected 20 year life of the project on only the Ogilby sub-basin. As

was learned in the Ocotillo/Coyote Wells Groundwater Basin, it is the impact of local pumping and local overdraft that is important, not merely the basin-wide impact of local pumping. It is important to remember that not all groundwater in storage in any portion of a groundwater basin is ever recoverable, either physically or financially feasible. We are adding this information about localized overdraft because this is the format in which information about other groundwater basins and impacts of localized pumping has been presented for review by Imperial County decision-makers in the past.

258 245. A review of Technical Appendix E-1 Tables 4.2 and 4.3 (at pp. 14,15) and Figure 3.13 of the Draft 3.13 (at p. 3-26) reveals a static groundwater level of 360 feet AMSL to the NE of the projected mine site and approximately 72 feet AMSL in the vicinity of the production well located approximately 5.5 miles to the SW. Well ER-2 located within the proposed project site has a static groundwater level of 104 feet AMSL and is approximately 5 miles to the northeast of the production well. Between these two wells there is more than a 30 foot gradient in groundwater elevation. What is the explanation? Such a decline in groundwater elevation suggests that recharge is not as significant as the Draft EIS/EIR would have us believe. If that is the case, then the impacts of the proposed groundwater pumpage may be greater on downgradient washes and vegetation, and may also be greater on any downgradient wells.

259 246. Information about pumping rates at different wells is irrelevant unless information about the drawdown and amount of time for continuous pumpage is provided.

260 247. We understand that additional comments on groundwater quantity issues are being prepared by a hydrologist, and reviewers are referred to the comments of Dr. Tom Myers.

CALIFORNIA REQUIREMENT FOR BENEFICIAL USE OF WATER RESOURCES

261 248. The DEIS/DEIR at page 1-15 correctly informs the reviewers that in order for the project to proceed there is a requirement that a conditional use permit for the operation of ground water production well would be required. In California there are both constitutional and legislative requirements that water be used for beneficial purposes. If the use is determined later to be non-beneficial there may be restrictions placed on that use such as were placed by the Appellate Court on Imperial Irrigation District relative to its water use and the rising level of the Salton Sea. As a result of that court decision, Imperial Irrigation District has been engaged in lining canals and water transfer to districts outside of Imperial County at considerable cost.

262 249. Although not stated in such terms, this is clearly an indication of the broad application of the "public trust doctrine" that relates to water uses in the state of California, a truly water-short area, particularly in the desert. We believe that in this case for this proposed mining project the question related to ground water use is not only whether there is sufficient ground water available to support the proposed project based on studies done to date, but whether in fact the use of ground water for a mining project at this location would destroy other values which are considered beneficial to the public. We assert that the public trust doctrine applies to ground water use in this case. We further believe that the use of ground water from a well field several miles away from the proposed site would facilitate the total and complete destruction of an archaeological record going back 10,000 years and the destruction of the area for use by the Quechan Indians for continued practice of their religion and maintenance of their culture.

263 250. Accordingly, we believe the use of ground water to support mining activities at the proposed project site is clearly not in the public interest. It may be in the interest of the mining company, but it is not

in the public interest. The lands in question are public lands managed by the BLM for the benefit of all the people, not simply for the mining company. These lands are managed for benefit of people today and for future generations. It is imperative that the value of the archaeological and cultural resources, and the use of the area for religious purposes is preserved. Accordingly, the use of ground water which would result in the destruction of these values is not a beneficial use. Therefore, in part, a conditional use permit for the pumping of 1,200 acre feet of ground water should be denied, even if the pumping of 1,200 acre feet of ground water would not have seriously adverse impacts on the ground water table or the ground water quality. The DEIS/DEIR is not convincing with respect to the impacts on the ground water basin or ground water quality because of inconsistencies in data and questions that arose when reviewing the technical appendices for other nearby projects that are located within the same ground water basin.

SECTION 3.3.2.2. GROUNDWATER QUALITY

264 251. The information contained in the Draft EIS/EIR on groundwater quality with respect to the monitoring and production wells for the proposed project is misleading with respect to drinking water standards for total dissolved solids (TDS). With the exception of monitoring well MW-2A and MW-2B all of the other monitoring wells and production well have TDS levels that are below 1,000. Because the majority of Southern California communities cannot achieve the TDS level of 500 for drinking water, and because the TDS level of Colorado River water exceeds 500, TDS level of 1000 has been deemed acceptable as a drinking water standard. Indeed, all of the communities within the Imperial County receiving Colorado River water have a TDS level in excess of 500. Accordingly, we believe that the statement in the Draft EIS/EIR at p. 3-30 is misleading when it states that "the groundwater is not suitable as drinking water without prior treatment, although the quality is sufficient for use and mining operations." If that is the case, then the same must be true for the water provided to the Imperial County communities receiving Colorado River water. Based on the water quality data in Table 3.6, it seems essential to protect the groundwater quality underlying the proposed project and in the vicinity of the production well, because such groundwater could be used for drinking purposes based on the quality of water used for drinking purposes elsewhere in Imperial Valley and in Southern California.

265 252. The following text from the Montgomery Watson December, 1995 Final report "Imperial County Groundwater Study" describes the TDS in surface waters from the Colorado River which are available for use in Imperial County.

> While water from the Colorado River is generally of good quality, excessive salinity concentrations have long been a major quality concern. In 1997, the 7 Colorado River Basin States, with the Environmental Protection Agency's approval, adopted water quality standards for River salinity measured as Total Dissolved Solids (TDS), at three stations: 723 mg/l below Hoover Dam; 747 mg/l below Parker Dam; and 879 mg/l at Imperial Dam. At Imperial Dam, the TDS concentration is typically about 750 to 900 mg/l, which is suitable for irrigation use. Although these levels are high for drinking water, they are still within acceptable limits. Without additional control measures, salinity in the lower reaches of the Colorado River will continue to increase; current studies show that the salinity at Hoover Dam could reach 1,000 mg/l by the year 2010. (Montgomery Watson. 1995. at p. 4-18.)

266 253. Discussion of the potential groundwater quality impacts if there were to be a leak in the leach pile liner or a leak from the process ponds is not reassuring based on experiences at other existing cyanide heap leach open pit mines in Southern California and elsewhere. We earlier noted that PVC liners are not

typical of the recent project approvals for open pit mines in Southern California as suggested at DEIS/EIR p. 4-22, and expressed concern about the fact that the proposed vadose monitoring system would underlie only approximately 25 percent of the heap leach pad. It is our understanding that the cyanide solution degrades upon exposure to air and sunlight, but that any cyanide leaking past the pad liner would seep into the subsurface materials without being degraded. Experiences in Colorado at the Summitville Mine and at the Castle Mountain Mine in San Bernardino County suggest that cyanide solutions do indeed remain problems if they leak past the leach pad liner. And as the experience at Castle Mountain Mine indicates, correcting leaks, finding leaks, and cleaning up leaks is not an easy task, even though CRWQCB had been informed of the leak. We are sure that the project applicants for both the Summitville Mine and Castle Mountain Mine similarly assured decision-makers that there would be little or no potential for leakage and little no potential that any such leakage would in any way or could in any way be significant.

"STATE OF THE ART" DOES NOT MEAN FOOL-PROOF OR SAFE.

267254. Although the mining industry claims that modern mines employ "state of the art" technology that consistently prevents mining operations from contaminating water, the reality disputes the claim. While improved technology does exist, it is not consistently used and managed properly by the mining industry. We site two examples to the real-world answer to state-of-the art cyanide heap-leach technology.

1: In 1986, Canadian-based Galactic Resources Corp. opened the Summitville Gold mine in Southern Colorado. The company categorized the mine as a 'state-of-the-art' cyanide heap leach gold mine. In reality, the mine was an environmental nightmare. Immediately after gold production began, the protective liner under the massive heap of ore being treated with cyanide solution tore, allowing cyanide to leak into the surface and ground water. Waste rock and other mining material unearthed and exposed by the mine began generating substantial amounts of acid and heavy metal pollution. The cyanide, acid, and metal pollution flowing from the Summitville mine contaminated more than 17 miles of the Alamosa River, a vital water source for farmers in the region. Galactic declared bankruptcy and abandoned the site in l992. The state of Colorado, which had provided scant regulation of the mine, immediately requested that the Environmental Protection Agency take over the site under the EPA's Superfund program. As of 1996, EPA has spent over one hundred million dollars in efforts to clean up the site. Total cleanup costs for the mine alone are expected to top 120 million dollars. Canadian courts have rebuffed Justice Department efforts to collect these costs to the American public from the now wealthy speculator who organized Galactic resources and promoted the Summitville mine venture. (Mineral Policy Center. 1997. Golden Dreams, Poisoned Streams. pgs. 13-15.) The situation has not improved during the past year.

Galactic had posted a bond to help cover the cost of reclamation, but it didn't amount to much. Around the west, the bonding requirements vary from state to state. Colorado's Division of Minerals and Geology had required Galactic to post only $4.5 million. Worse, only 2.3 million dollars was cash: the rest was in liens on the company's equipment.

So far the clean up has cost $120 million, with the total estimated to reach $150 million, not including lawyer's bills. Almost all the money has come from the Superfund which is endowed mainly by fees on the oil and chemical industries. (High Country News. January 19, l998. " Summitville: An Expensive Lesson".)

268255. 2: A January 20, l998 article in the San Diego Union entitled "Mining's Massive Scale" included the following information on cyanide heap leach mining:

It is a controversial approach to mining that relies on millions of gallons of water laced with cyanide to wash the precious metal out of the sediment containing it. The process rankles environmentalists and draws scrutiny from a host of federal and state regulators.

269 256. Their concern turned out to be well-founded last year when one of California's gold mines was discovered to be leaking cyanide tainted water. The leaking mine turned out to be Viceroy's Castle Mountain Mine in San Bernardino County, supposedly one of the very best "state of the art" cyanide heap leach mines. Additional discussion in the San Diego Union included the following:

> Leaks in the plastic liners beneath the heaps are another concern, since they can enable cyanide laden water to penetrate into the ground water.
>
> Mining companies strive hard to avoid these leaks, for a simple reason: if cyanide solution is escaping, so is the gold that's in it. Besides, leaks can mean fines of up to $1,000 a day by the Regional Water Quality Control Board.

270 257. Nevertheless. Viceroy's Castle Mountain mine, near the Nevada border in San Bernadino County, has twice discovered leaking heaps in recent years.

> The first was repaired. But the company's managers are still pondering what to do about the second leak, which was detected about six months ago, according to Rob Tucker, an engineer with the Colorado River Basin Regional Water Quality Control Board.
>
> As Smith points out, there are really only two ways to deal with a leak, and both are costly. One is to expose and repair the plastic liner by removing the millions of tons of accumulated ore that lie on top of it. The other is to stop using the leaking heap.
>
> For the time being, Viceroy has chosen the later strategy, Tucker says--although heavy rains could still send unwanted water trickling through the problem heap. No fine has been assessed because the company promptly notified his office of the problem and has remained in close contact, he adds. (Gordon Smith. San Diego Union. "Mining's Massive Scale" January 20, 1998 pgs. A-1 & A-11.)

271 258. So obviously, concerns about the cyanide heap leach process, the integrity of the plastic liners, the potential for leaking cyanide, and potential contamination of underlying soils and groundwater are very much a reality, regardless of mining industry assurances to the contrary. Should a skeptical public and concerned local decision makers be convinced that fees or penalties for leaking liners or spills are going to be any deterrent for the industry? Of course not. It is obvious that even though penalties are listed on the books, in the most recent case it appears that they are not even applied. It appears from the San Diego Union article, that by the simple virtue of the mining company notifying the responsible state agency that it has a problem on its hands it avoids paying any penalties. The mining company can simply do nothing and start all over. That is hardly much environmental protection.

272 259. Closer to home, a September, 1995 publication by EPA's Office of Enforcement and Compliance Assurance entitled "Profile of the Metal Mining Industry" includes six pages in Exhibit 20 entitled "Gold and silver related waste releases". This list includes all three cyanide heap leach gold mines in Imperial County. (See our Exhibit I – 98.) Obviously, release of cyanide solutions or contaminated materials is not a unique or a rare happening at cyanide heap leach gold mines throughout the western United States. The table included by EPA was published in 1995 and includes releases up to 1992. We are unsure of the magnitude or the extent of the releases since that time. Our exhibit is included to reveal to the public and to

decision makers that "state of the art" technology is not as great and as wonderful as the mining industry would have us believe.

273 259. The experience at Summitville raises the concern about who is ultimately responsible for cleanup of hazardous waste associated with heap leach mines.

274 260. In light of the questions associated with the generation and clean up of hazardous waste associated with the mining industry, especially the "heap leach" mining activities where toxic materials are used to concentrate and leach out the minerals, Leshy noted that: "It is an interesting question whether the United States, as holder of legal title to land embraced in unpatented mining claims, might be held responsible for the cleanup of any hazardous mining wastes disposed of on that land." (Leshy 1987:188.) Indeed, from New York v. Shore Realty Corp, 759 F.2d 1032 (2d Cir. 1985) one concludes that "owner of land on which hazardous materials are found may be liable for cleanup costs without actually having caused the threatened injury." (Leshy 1987:442 #29.) The answer became even clearer with the Summitville Gold Mine where the EPA has paid for ongoing clean-up.

275 261. After we reviewed the EPA summary information about cyanide leaks at the Summitville Mine and Castle Mountain Mine, when we then looked to the Glamis Gold Limited 3/98 10-K/A report we noted that Glamis Gold admits that it had reportable releases or spills added at its operations between 7/95 and 12/97. During that same time:

> the Company made no material capital expenditures with respect to environmental compliance save and except as required by permits for construction at its mining operations and for reclamation being carried out concurrently with mining operations and estimates that it will make no material capital expenditures in this area during the fiscal year ending December 31 1998. During the year ended December 31, 1997 the Company had six small reportable releases or spills at its operations. In all cases the appropriate authorities were notified and cleanup was undertaken immediately. Measures, including procedural changes and education were taken to prevent re-occurrence of the incidents. No action by the authorities is expected in respect of any of the occurrences. (Emphasis added. GGL 3/98 10-K/A at p. 22.)

Precisely what were these releases or spills, and at which mining operations did they occur and when?

276 262. Assurances of no problems with pit lake formation (Draft EIS/EIR at p. 4-23) are meaningless if operations cease prior to completion of the project or if the company abandons the project and backfilling of pits, or if without adequate financial assurances to pay for backfilling by BLM staff or by a third party contractor. Elsewhere in the Draft EIS/EIR it states that backfilling would not be required under those circumstances. Inconsistent statements within the text of the Draft EIS/EIR raise serious concerns about what decision-makers would actually be approving if the determination were made that any EIS/EIR with the same inconsistent text meets the requirements of NEPA and/or CEQA.

SECTION 3.5. BIOLOGICAL RESOURCES

277 263. Attachment E (the soil survey) to Appendix A (Reclamation Plan) still states that the proposed project is located "5 miles West of Ogilby Road." This kind of inattention to detail raises questions about other aspects of technical material in the Bamberg reports.

278 264. When one compares the 11/96 Draft EIS/EIR Figure 3-12 with the 11/97 Draft EIS/EIR Figure 3.14 of the same title, one observes that the three depicted guzzlers are in different locations; that the

configuration of the Hyduke Road is different; that the Indian Pass ACEC has been deleted from 11/97 figure; and there is only a very slight difference in the configuration of the proposed project area indicating deletion of a small area just east of the Indian Pass Road in the SW portion of the proposed project site. What is the explanation for these changes?

SECTION 3.3.5. VEGETATION

279 265. In addition to the species that were listed as dominant species within the wash channels, we also found numerous large specimens of Mammillaria tetrancistra, a relatively uncommon species we did not expect to find at this location.

BASELINE VEGETATION STUDIES ARE INADEQUATE

280 266. Technical Appendix F, the baseline vegetation survey, dated 8/95, states that late fall and winter rains were favorable in 1991, 1992, 1993, and the spring of 1995. This appendix states that the heavy rainfall produced excellent plant growth. This is also reflected in the text of the 11/97 Draft EIS/EIR at p. 3-48. The text states that: "Vegetative growth was reported to have been higher for the immediately previous three (3) years (1993-1995) than it had been in the previous 15-20 years." The 8/95 technical appendix states that field surveys were performed on June 2-3, 1995. When the text states that rains were abundant in the fall and winter, why were there no vegetative surveys performed following the fall rains? Why were there no surveys performed by Bamberg during the early spring months?

281 267. The 11/97 Draft EIS/DIR at p. 3-48 also states that there was a wash vegetation and habitat survey conducted in May, 1997, and that this survey is included as Appendix G. A review of Appendix G reveals that: "Vegetation surveys were conducted from January 21 to 24, 1997." (Technical Appendix G at page 4.) "The wash survey followed a two-year period of extremely dry weather conditions. Less than 0.25 inches of rain fell since the baseline survey was completed in 1995 (22 months)." (Draft EIS/EIR at p. 3-48.) Thus, it appears that the wash survey was conducted at a time calculated to give minimum vegetative cover. Furthermore, the text of the Draft EIS/EIR misrepresents the timing of the vegetative survey in the Technical Appendix. Why?

282 268. Beginning in September 1997 with the advent of Hurricane Nora, there have been a series of frequent and heavy rainfalls throughout Imperial County, including along the Indian Pass Road area. Following these rains there has been abundant vegetation growth from the beginning of October with many species of plants in bloom since the mid-October. Many Sierra Club members, members of the general public, botanists, and representatives of other organizations have visited the proposed project site since those fall rains in 1997, and have observed a number of plant species in bloom which were not included in any of the Technical Appendices for the proposed project. Many species should have been recognizable to any botanists doing the survey at the appropriate time of year following rainfalls. For example, both Pectis papposa and Datura are easily recognizable by amateur botanists, even traveling along the road at a speed of 55 mph. Even BLM State Director, Ed Hastey, agreed that these two species would be recognizable from a car traveling at high speed. Since the species are not included in any of the botanical surveys, there can be only two explanations for these omissions. Either those doing the botanical surveys were unfamiliar with the local vegetation or those doing the botanical surveys did them at the wrong time of year in relation to the rainfall pattern. Which is the correct explanation? Regardless of which explanation is correct, the omission of easily identifiable plant species in bloom raises serious questions about the adequacy of any and all of the botanical surveys. How many other more difficult to identify and/or less common plant

species were not included in the botanical surveys? If rainfalls were abundant in the fall and in winter of earlier years, why were no botanical surveys done during these times? Why did botanists wait until June of 1995 (when conditions are typically hot and dry) to conduct botanical surveys during years of abundant rainfall? Even the botanical surveys conducted by Rado (Technical Appendix H.) which indicates surveys of the project area during July, August, and September 1994 and February, April, and May 1995 were apparently inadequate to detect the vegetation which has been blooming in response to the September 1997 rains. Perhaps many of the species did not bloom during the 1995 wet cycle. Anyone familiar with the deserts in Imperial County is well aware of the fact that some plants bloom in the fall and others bloom in the spring. Not all species bloom every year with rains. Spacing of the rains and depth to which the rainfall infiltrates is critical. If one wants to determine the species that are present in any given area, one must make repeated visits to that area to determine which plants are in bloom as the season progresses. The inadequate botanical surveys for this project also raise questions about assertions of the nature of vegetative cover and available forage for wildlife. It is not the responsibility of the concerned public to conduct a botanical survey for a project which encompasses a proposed area of approximately 1600 acres.

283 269. Based on the inadequacy of the existing botanical surveys, it is imperative that botanical surveys be conducted for the full year, this El Nino year. Information on the inadequacy of the botanical surveys and misrepresentation of the time of the vegetative surveys in the wash was made available to BLM ECRA by Harmon starting in October 1997, and by others at public hearings on the proposed project in December 1997. Accordingly, new or additional botanical surveys should have been initiated beginning in either October or November 1997 to remedy deficiencies in the technical appendices included with the Draft EIS/DIR for the proposed Imperial Project.

284 270. The inadequacies of the botanical surveys as described in the 11/96 Draft EIS/EIR were pointed out in our comments on that document. Those deficiencies remain and were not remedied by a wash survey conducted during the 3rd week in January of a drought year. We disagree with the statement that:

> Because of the three consecutive wet years and favorable conditions prior to the 1995 survey, the results of this vegetation survey were interpreted to represent the highest cover and diversity possible in the project mining process area, with more than four times the cover which would be expected following a series of dry years. (Draft EIS/EIR at p. 3-51.)

Based on repeated field trips to the project site following the September 1997 Hurricane Nora and continuing every few weeks through March 1998, the above-quoted assertion in the Draft EIS/EIR seems botanically ludicrous.

285 271. The assertion that there is an almost non-existent vegetative ground cover in the project mine and process area and the project ancillary area (Draft EIS/EIR at p. 3-48) is inconsistent with our observations at the project site last spring and this fall, winter, and spring of 1997-1998.

286 272. If photographs similar to Figures 4-4 the 4-5 in Appendix F and Figures 2.1 , 2.2, 2.3, and 3.1 in Appendix G had been taken during the late fall or winter of 1997-1998, they would have appeared much greener, and likely carpeted with green at ground level. Indeed, in March 1998 the desert in much of Imperial County is now a carpet of green vegetation and blooming wildflowers. Because of abundant and well-spaced rainfall since last September, vegetative growth has been lush and abundant, resulting in increased cover and species diversity.

287 273. It should also be noted that as a result of the fall 1997 rains, there has been an increased germination of numerous species representative of the microphyll woodland. Additionally, Calliandra

eriophylla, has been in bloom since October 1997, a bloom season longer than the period from January through March as stated in the Draft EIS/EIR at p. 3-54.

SECTION 3.5.6.2. BIOLOGICAL SURVEY FINDINGS

288 274. The author of Technical Appendix I acknowledges that he knows little about desert deer inhabiting southeastern California. Having said that, it might be more appropriate to include a Technical Appendix based on the experiences and observations of members of the Imperial County Fish and Game Commission and/or CDFG who are familiar with the area, and familiar with desert deer use of the area. Making assumptions about a deer population in southeastern California by comparing it to a deer population in Arizona where there is more vegetation may lead to erroneous conclusions about deer behavior and use of habitat in the vicinity of the proposed project by desert deer. It is our understanding that, based on personal observations of members of the Imperial County Fish and Game Commission and other Imperial County residents, the microphyll woodland in the vicinity of the proposed project is indeed used as deer fawning habitat, contrary to the assumptions in Technical Appendix I at p. 4 and in Draft EIS/EIR at p. 3-71. Based on the text in the Draft EIS/EIR at p. 3-80, there is acknowledgment of the concerns of the CDFG and Imperial County Fish and Game Commission about the use of the local microphyll woodland and its importance to local deer population. Because the local concerns and local knowledge are in such contrast to the information in Technical Appendix I, it is recommended that there be an additional study of the local deer population in the project vicinity along the Indian Pass Road area, to replace or verify speculation based on observations of deer in Arizona.

289 275. Technical Appendix J, the bat survey, after discussing the bats that were observed, heard, and could be expected to forage along the washes of the proposed Imperial Project site, includes the following conclusion: "The desert washes offer the richest foraging habitat, and should be preserved whenever possible."

SECTION 4.1.5.2. IMPACTS OF THE PROPOSED ACTION ON VEGETATION AND PLANT HABITAT

290 276. The question of backfilling. Once again there is reason for concern because in varying places in the Draft EIS/EIR there is text which indicates loopholes in the requirements for backfilling of pits, including the West Pit. Problems associated with failure to backfill abandoned pits which are excavated to a level considerably below the static groundwater table could result in the accumulation of moisture sufficient to support invasive weed species such as salt cedar (tamarisk). All assurances about backfilling to eliminate the potential for pit lakes or accumulation of moisture in the bases of abandoned pits has little meaning in face of the text of the Draft EIS/EIR which states: "Seasonally moist areas within the remnant East Pit (or West Pit, if mining is terminated prior to commencement of backfilling) could result in small areas (estimated at less than 1 to 2 acres of pit bottom) in which salt cedar growth might be supported" (Draft EIS/EIR at p. 4-48). From this text, it seems clear that there are no guarantees that any of the proposed open pits would ever be backfilled. Asserting that there will be active control of introduced plant species during and following active mining operations is not reassuring given the invasive nature of tamarisk wherever it has once gotten a foothold.

291 277. This section also discusses concerns about the downgradient impacts of diversion of the main drainage channels or washes. However, there was no discussion related to these concerns or to the nature of the impacts resulting from altering infiltration of flood waters and runoff through existing washes. The

downgradient microphyll woodland adjacent to the proposed mine project receives moisture from subsurface flow migrating subsequent to infiltration upgradient. How would the downgradient microphyll woodland adjacent to the southern or southwestern portion of the proposed project site be impacted by the cutting of larger open pits into the washes and diversion of wash flow across less porous substrate in the diversion channels? Simply converting the flow of the washes around the open pits through the mine project area and then back into the same drainages is not the same as having infiltration and subsurface flow through the uninterrupted wash system. What are the potential impacts on downgradient washes and available water to support the microphyll woodland that would result from having major washes interrupted by the creation of large open pits which would permit increased evaporation rates along the side walls? What has been the impact on downgradient washes where they have been diverted or cut by large open pits at other existing open pit mine sites in Imperial County and elsewhere in the desert southwest? Please cite studies done in other open pit mine areas or similar situations, and the results of such studies.

WILDLIFE IMPACTS OF MINING FROM THE CDCA PLAN.

292278. The Final EIS for the CDCA Plan Volume E. Appendix IX, Wildlife includes some of the following assumptions regarding the impact of mineral exploration and development on wildlife resources:

1) mineral exploration, development and extraction on Class C and L designated lands and should be more closely monitored than on Class M and I designated lands. A condition and specified in the Proposed Plan.

2) environmental damage on Class C and L designated lands, by nature of the more restricted guidelines on development, would be less than on Class M and I designated lands.

....

5) the potential for development throughout the area of the mineral resource exists, subject to a variety of variables, including: (1) Class guideline restrictions; (2) environmental law and policy; (3) world market price, (4) current future extraction technologies, and (5) the domestic and international political climate.

6) mineral extraction, development and exploration will have an effect on all wildlife resources and habitats known to occur within a deposits boundary lines. (CDCA Appendix IX Wildlife, revised 1/1998, at p. 91.)

Nature of impacts

Habitat and wildlife loss from mineral exploration and development may result from a number of associated activities including: (1) construction of roads, drilling platforms, open pits and shafts: (2) grading and dredging; (3) formation of dams and tailings ponds and in; (4) leaching of toxic chemicals used during the extraction process; (5) removal of vegetation and (6) vehicle use during exploration. Adverse impacts to wildlife population include soil compaction ..., direct mortality..., removal or collapsing of burrows ..., reduction in animal populations..., decrease in vigor of habitats..., impairment of hearing ability..., poisoning from toxic chemicals left in dumps... and removal of vegetation during construction activities... Other effects resulting from surface mining activities include leaching of stored subsoil materials, topsoil removal covering of wildlife habitat from mine spoils, increased erosion, displacement of mobile species, decrease in nutrient and energy flow to adjacent areas, destruction of less mobile species, destruction of food supplies and cover, and overcrowding and increased competition for resources... the specific effects of undue degradation of lands by hardrock mining on public lands have been discussed using examples by Shridas (1977). Deleterious effects to wildlife include increased erosion, contamination of water

supplies, rechanneling land of critical water supplies and destruction of vegetation. (CDCA Plan Volume E. Appendix IX Wildlife revised 1/1998 at p. 92, 93.)

293 279. Desert tortoise impacts. U.S. FWS " Re-Initiation of Formal Consultation for Small Mining and Exploration Operations in the California Desert" (6840 CA-063.50) (1-8-94-F-28R) dated 6/9/94 at p. 4 states that "Desert washes, ... are heavily used by desert tortoises because of their generally more diverse plant community" are subject to mining activities. It also notes that washes may be subject to additional down-wash impacts including increased erosion resulting as the disturbed soils moved down the drainage.

SECTION 4.1.5.3.I. IMPACTS ON WILDLIFE HABITAT

294 280. If the revegetation success for survival of ironwood seedling transplants is as high as 80 percent as asserted at DEIS/EIR p. 4-51, then why did the "revegetated" leach heap site at the Picacho Mine look so grim and barren when we were shown the site by project applicant Steve Baumann during the BLM Desert District Advisory Council tour? Furthermore, if revegetation efforts were so successful, why was Steve Baumann unwilling to allow two of us to view any additional sites or spend more time looking at the revegetation effort when we arrived more than one hour in advance of the rest of the group? One would assume that if the revegetation had indeed been very successful, Mr. Baumann would have been extremely eager to have us view that success. If 80 percent of the ironwood seedling transplants survived after one year, why did Mr. Baumann choose to take us to a place were the majority of the ironwood seedling transplants were clearly dead? There must be an independent verification of revegetation success by botanists not associated with the project applicant or with the project mining company. Such an independent revegetation review committee was established to monitor revegetation success at the Castle Mountain Mine. Rather than withholding information and limiting site visits as was done at the Picacho Mine, the individual supervising the Castle Mountain Mine revegetation/reclamation effort teaches courses on revegetation of mine sites and uses the Castle Mountain Mine as an outdoor laboratory for those classes. (Harmon took Dr. Ray Franson's course, offered by CSU San Bernardino, last spring.)

295 281. One proposed mitigation measure for impacts to microphyll woodland has been the acquisition of private lands containing microphyll woodland habitat at a ratio of 3:1 in close proximity to the proposed project mine in process area (Draft EIS/DIR p. 4-52). What is the nearest microphyll woodland to the proposed mine and process area which is private land and which does not have open mining claims held by the project applicant or by any other private party? Our review of records at the Imperial County Assessor's office suggests that the nearest private property which might have microphyli woodland is many miles away.

296 282. It is not expected that individuals or organizations not financially associated with the proposed open pit mine project would agree that the permanent loss of the microphyll woodland habitat for such a long period and loss of mature habitat necessary for revegetation and replacement of a lost microphyll woodland habitat would be considered "less than significant".

SECTION 4.1.5.3.2. IMPACTS ON WILDLIFE AND WILDLIFE MOVEMENT

297 283. The Draft EIS/EIR states that: "Noise-sensitive species would be expected to avoid both the project area and neighboring areas over the life of the project, but would be expected to return when the noise-generating operations are discontinued." (At p. 4-53.) What small species of mammals or reptiles could be expected to move away from the mining operations rapidly enough or in appropriate direction to

avoid harm? It is doubtful that even large reptiles such as a desert tortoise could move away from harm (without human intervention) and be expected to survive in an unfamiliar habitat already occupied by other animals. Although larger wildlife might be able to avoid danger associated with the project, smaller animals would be in competition with other species even if they were able to slowly migrate away from danger. Realignment of a portion of the Indian Pass Road simply destroys even more wildlife habitat. (See discussion in our 1997 comments.) Vibrations from blasting and the use of heavy equipment will also adversely impact sensitive wildlife and interfere with auditory communications among animals. Wildlife is not likely to find waste rock piles or leach piles as suitable habitat. These enormous man-made piles of crushed rock would also serve as barriers for wildlife movement.

298 284. As noted previously, there are no requirements for mandatory backfilling of the West Pit. "If mining is suspended or terminated prior to backfilling of the West Pit, the West Pit would remain as an open excavation and would remain as a long-term impediment to the movement of some wildlife species. Individual terrestrial wildlife species could become injured or killed by falls within this open pit." (Draft EIS/EIR at p. 4-55.) The text goes on to describe the remaining open pit as potentially attracting wildlife and making wildlife species more vulnerable to predation. As is noted, these effects would be above level of significance. However, even more troubling is the repeated reference that backfilling is not required if operations are discontinued prior to completion of the anticipated life of the proposed mining project.

SECTION 4.1.5.3.3. IMPACTS TO THREATENED OR ENDANGERED WILDLIFE SPECIES

299 285. Discussion about individual desert tortoises potentially wandering into the open East Pit following completion of mining activities (Draft EIS/EIR p. 4-56) suggest that the proposed mitigation measure of surrounding the East Pit by large rocks would not be required (especially if operations were to be terminated earlier than planned) or that the boulders would be ineffective at keeping out desert tortoises. It is the direct loss and displacement of the tortoises at the project site which is of more concern.

300 286. How would constructing three off-site big game guzzlers at a location in the vicinity of the project area, an area which would lose important microphyll woodland habitat and associated forage, be a benefit to wildlife, if it serves to attract animals to an area with already limited forage potential because of proposed mining activities? (See additional discussion in 1997 comments.)

301 287. Mitigation measure 4.1.5-20 states that the applicant shall implement weed control measures such that all introduced plants, including tamarisk, mustard, and other noxious weeds, will not become established within the project area. That is a very curious statement, because the list of species indicated as acceptable in the seed mix for revegetation includes mustard! (Reclamation Plan at p. 27.) It makes no sense to develop a program to control weed species while at the same time introducing seed of one of the same weed species as part of a revegetation program. Approximately how much money would be required as part of an eradication program to "eliminate factors conducive to tamarisk growth ([in] moist areas)"? The only method we can think of at this time is either complete backfilling or backfilling considerably in excess of what would be necessary to cover the moist areas at the bottom of the pits. To prevent future growth of tamarisk in these areas would require backfilling in excess of the maximum anticipated depth to which tamarisk roots can reach for water. (What is the maximum recorded or anticipated tamarisk root depth?) A mitigation measure should state this in some detail.

302 288. Numerous mitigation measures referenced the designation of a field contact representative (FCR) who would be appointed by the project applicant and be responsible for overseeing compliance with

stipulations related to listed species. (Draft EIS/EIR at p. 4-71, 4-72.) Any FCR should not be appointed by the project applicant, and should be independent of the project applicant or under the direct supervision of BLM, CDFG, or USFWS.

303 289. Mitigation measure 4.1.5-51 requires a Revegetation and Monitoring Review Committee with the mandate that the committee "shall be proposed by the Applicant" (Draft EIS/EIR at p. 24-77). Any Revegetation and Monitoring Review Committee must be independent of the project applicant to be credible. Castle Mountain Mine has such an independent revegetation review Committee made up of designated professional members. We provided details of the stipulations at the Castle Mountain Mine and included exhibits (related to revegetation in disturbed arid areas) with our 1997 comments in response to the 11/96 proposed Imperial Projet.The recent Record of Decision for the Castle Mountain Mine expansion or sites these requirements again. The proposed mitigation measure for the Imperial Project is but a very poor substitute for the requirements at the Castle Mountain Mine. Why was the example of Castle Mountain Mine in regard to reclamation procedures ignored?

304 290. BLM should have some consistent mitigation measures related to open-pit mining in then CDCA. Presumably that is why the BLM State Director issued his Instruction Memorandum indicating that Draft and Final environmental impact statements in Records of Decisions were to the released only with the approval of the BLM State Director. BLM's September 1996 "Overview of BLM's NEPA Process" (at pp. 5 and 42) state that the responsible officials may not advocate final decision authority to anyone.

305 291. BLM should have some consistent mitigation measures related to open-pit mining in then CDCA. Presumably that is why the BLM State Director issued his Instruction Memorandum indicating that Draft and Final environmental impact statements in Records of Decisions were to the released only with the approval of the BLM State Director. BLM's September 1996 "Overview of BLM's NEPA Process" (at pp. 5 and 42) state that the responsible officials may not advocate final decision authority to anyone.

SECTION 3.6.2. CULTURAL RESOURCES

306 292. Technical Appendix L entitled: "Where trails across: cultural resources Inventory in evaluation for the Imperial Project, Imperial County, CA (October 1997) [Draft]" is conspicuously labeled as a "Draft". Does this mean that there will be substantial changes to the text of this document after the receipt of public comments? Alternatively, does the use of the term "Draft" imply that there is continuing research on cultural resources and the significance of this area to the Quechan Indian Nation?

307 293. "The area in and around the Project mine and proposed area was heavily used by Native Americans for religious observances, as a travel route, and as a source for tool-grade lithics." (Draft EIS/EIR at p. 3-83.) The text then goes on to discuss the trails and travel through the area and states that: "Trails were important not only economically but also as an integral part of Quechan belief systems." (Draft EIS/EIR p. 3-83.) There is "a close connection of trails to religious beliefs centered on the dream world, which was a source of knowledge and power for traditional religious practitioners." (Draft EIS/EIR at p. 3-83,3-84.) The text also contains numerous references to religious activities conducted on or in the vicinity of the proposed project site.

308 294. Appendix L makes repeated references to the religious significance of materials and features that would be affected by the proposed Imperial Project. (See Appendix L at pp. 29, 38, 60-66, 90, 93, 94, 115-116, 194, 195, 197, 206, 211, 268, 269, 283, 284, 292, 297, 298, 301, 308-309.)

309 295. The Draft EIS/EIR contains additional references to religious used of the area. Ethnographic and ethnohistoric accounts (Forbes 1965: Forde 1931) tell of a close connection of trails to Religious believes centered on the dream world, which was a source of knowledge and power for traditional religious practitioners. Members of the Quechan Tribe have identified a geoglyph in the vicinity of the project ancillary area as having been made by Quechan in the 1940s and have cited this geoglyph as evidence of continuing religious use of the area." (Draft EIS/EIR at p. 3-83,3-84.) "Some wide-ranging foraging activities may also be evidenced from the cleared circles and rock rings that may represent short-term encampment, as well as religious activities." (Draft EIS/EIR at p. 3-84.)

310 296. Native American concerns identified by the Quechans and others include the following:
- The Project mine and process area is located within an area of high religious, cultural, and educational value to the Quechan;
- The area is connected by a trail system to several other areas of similar importance, including Pilot Knob, Picacho Basin and Modems Mountain; these trails are important in Quechan leave systems;
- The area has been used as recently as the 1940s for specific religious observances that can only occur in this place, Quechan tribal members planned to conduct such observances at this location in the future;
- The area is necessary for Religious practitioners to gain requisite knowledge for continuation of Quechan religious beliefs and practices;
- The area is necessary for teaching Indian youth about Quechan tribal history, religion, and culture; and
- The Quechan Nation has stated that development of the mine pits, a heap, and waste rock stockpiles would destroy their ability to perform to religious, cultural and educational practices. (Draft EIS/EIR at p. 3-85.)

311 297. A number of artifacts and features associated with shamans hearth, vision quest loci, cleared circles, conflicting stations with a high frequency of broken quartz, "may reflect religious activities as well as tool stone procurement" (Draft EIS/EIR at p. 3-86). In its discussion of the area of traditional cultural concern, the Draft EIS/EIR mentions that the Indian Pass-Running Man ATCC has characteristics of Quechan religious structures and it teachers there are held in high regard by the Quechan Tribe. In the Trail of Dreams passes use area and is extremely important to the Quechan. (Draft EIS/EIR a p. 3-93.)

312 298. The discussion of the impacts of the proposed mine project on the Quechan state that "According to knowledgeable Quechan representatives, development of the Project would destroy their ability to use the Indian Pass-Running Man ATCC for religious and educational purposes, which would have a "devastating" impact on their cultural heritage." (Draft EIS/EIR at p. 4-83.) There is additional discussion of the impact of the proposed project on religious observances and activities at Draft EIS/EIR p. 4-126. Although there is considerable discussion of cultural religious impacts of the proposed open pit mine project for the Quechan in the Draft EIS/EIR text itself, be information in the Technical Appendix L is far more comprehensive and detailed.

TO WHOM DOES THE WORD "OUR" REFER?

313 299. Appendix L inappropriately offers profuse thanks to Bauman, project applicant for the Imperial Project. It is obvious from reading the Technical Appendices that almost all were prepared for the project applicant and accordingly do not necessarily represent independent technical reports as required by BLM documents for NEPA compliance. In the case of this technical report on cultural resources our concern

was heightened by the repeated use of the word "our" with reference to "our Project", "our area", or "our study area". After speaking with a number of professional archeologists, and raising concerns about the use of the word "our" in a Technical Appendix relating to cultural resources, all concurred the professional archeologists would be unlikely to use the term "our" in preparing a technical scientific report. This raises questions about who it was that used the word "our", whether it was present in the original text submitted by the archeological consultants or whether it was a later "correction" added by the project applicant or someone else. Use of the word "our" suggests a failure to prepare a truly objective analysis of cultural resources, and an attempt to minimize the significance of some of the cultural resources and religious and cultural significance of this site in the surrounding area to the Quechans. (Examples of the use of the word "our", see Appendix L at pp. 14, 62, 66, 69, 70, 82, 84, 86, 87, 88, 89, 90, 92, 93, 96, 98, 103, 104, 105, 106, 107, 108, 109, and 117.)

314 300. Examples of text where the use of the word "our" raises troubling questions: Whose report is this? The word "our" has been underlined as emphasis in the following passages to highlight this concern. "Our study area is about nine air-miles west of Picacho." (Appendix L. 84.) "Another large village near our study area was named Amay..." (Appendix L. 82.) and "other places of spiritual importance are Tank Hill or Sierra Prieta... Located within the town of Yuma (or the town water tanks are) some 30 miles southeast of our Project area..." (Appendix L. at 62.) "There are several archeological implications for our area that one may draw from the descriptions of the Keruk..." (Appendix L. at 66.) "Local ceremonials centers, like the site complex at Senator Wash east of our study area, may have been stops for religious pilgrims on the track from Pilot Knob to Spirit Mountain." (Appendix L. 69.) "Vision quest circles are quite numerous in an around our study area" (Appendix L. at 69.) "Contemporary Quechan suggest that spiritual leaders came to places like our study area with a small number of students." (Appendix L. at 70.) "some nine miles east of our Project area, at Picacho basin... In our study area, there are virtually no rock ring type cleared circles that appear to date to the Patayan Period."..... Berm-lined cleared circles are not known for our area..." (Appendix L. 88.) Understanding the archeological manifestations of temporary camps for our Project area is far from straightforward." (Appendix L. at pp. 86,87.)

315 301. "This suggests that for our study area, cleared circles complexes without associated artifacts or features may have served a different function from cleared circles and other campsites that do have associated flakes and other artifacts." (Appendix L. at 89.) "There are no such sites within our study area." (Appendix L. at 90.) "temporary camps in our area may have functioned in the number of ways.... Is not found in our study area... The near the equity of flakes stone debris in our Project area..." (Appendix L. at 90.) "In our study area, the most detectable prehistoric trails are on the shoulders and tops of ridge systems..."... "For example, the Indian Pass trail, located within our study area, passes through a pavement that has numerous basalt boulders embedded in it." (Appendix L. at 90.) "The Trail of Dreams or Mohave War Trail, a north-south route running through our study area, also crosses areas of Boulder fields and shows evidence of strenuous labor in its construction." (Appendix L. at 93.) "Many of the trails recorded in our area are apparently secondary trails linking temporary camp..." (Appendix L. 93.) "Another excellent and large example, is located near Picacho Peak, just east of our study area." (Appendix L. at 96.) "Tumco Buff from our study area.... well north of our study area". (Appendix L. at 98.) "the vast majority of ceramics noted in our study area....just south of our study area..... from the Palo Verde area north of our study area" (Appendix L. at 103.) "This is within our study area" (Appendix L. at 104.) "Rogers noted a minimum total of 137 broken vessels for these trails, all of which are in or near our study area" (Appendix L. at 105.) "It is possible that... Have been improperly identified for our study area." (Appendix L. at 106.)

316 302. At Appendix L. p. 107 we noted the correct reference to "the Project area" at the beginning of the

paragraph. However, the final sentence of the paragraph concludes: "This model arguing for a definitive relationship between formal tools and settlement system has yet to be demonstrated for our area." (Appendix L. at 107.) The following page the first sentence refers to "the Project area" and the final sentence concludes: "Within our study area. these pecked stones often appear associated with chipping stations and lithic scatters of chert, rhyolite. and other materials." (Appendix L. at 108.) "our area is in this central aspect." (Appendix L at 109.) "Within our study area, a record search at IVC Museum revealed some 35 sites with cleared circles." (Appendix L. at 117.)

317 303. The above review of the text when compared with the table of contents reveals that the use of the word "our" occurs in Appendix L. Chapters 3 cultural context, regional overview. Who wrote this text, and who reviewed this text? What is the significance of the use of the word "our" in this Section of this report?

SECTION 3.6.2.2. NATIVE AMERICAN VALUES

318 304. The text in this Section misrepresents the BLM's obligations with respect to Native American concerns and cultural resource management. The CDCA Plan Final EIS Appendix Volume D Part 2 at p. 98 includes a copy of the Memorandum of Understanding pertaining to BLM CA policy for Native American concerns and cultural resource management. Among the provisions are: "j) The Bureau will allow Native Americans free access to sites of religious and ceremonial significance." Additionally part of BLM's cultural resource policy includes an objective to: "Manage cultural resources so that scientific and socio-cultural values are not diminished but rather maintained and advanced." (CDCA Plan Final EIS Appendix Volume D p. 99.) These statements give a very different impression of BLM's obligations than presented in Section 3.6.2.2 which states that federal agencies would "consider Native American concerns in their land-use decisions and to grant access to Native American groups for religious observations, where possible." (Draft EIS/EIR at p. 3-84.)

319 305. The text in the Draft EIS/EIR makes it appear that the granting of free access to Native American groups for religious observation is not really an obligation but done merely where or when convenient. However, according to text in the CDCA Plan Final EIS Volume D, BLM has a mandatory responsibility to protect free access.

320 306. The Quechan Indian Tribe, the Colorado River Indian Tribes and the Fort Mojave Indian Tribe "have expressed strong cultural connections to the project area, and strong concerns about the proposed action." (Draft EIS/EIR at p. 3-84.) BLM has a mandatory duty to consult with Native American tribes. However, we are unable to find any evidence that BLM attempted any meaningful consultation with any Indian Tribe other than the Quechan. If there has been consultation with any other tribes, which tribes, when, how and with what results? Why was no other Consultation mentioned?

321 307. At the Quechan Public Hearing on 2/7/98, a representative of the Colorado River Indian Tribes expressed both concern about and opposition to the proposed Imperial Project mine. At the American Indian Science and Engineering Society 3/27/98 Regional Conference at Palomar College, during discussion of cultural resource issues. Dr. Mike Baksh, in response to a question, indicated that he had conducted no "meaningful" Consultation with any Native American Tribe other than the Quechan Nation. His only explanation was that the proposed project was in what was known to be traditional Quechan territory. However, because the Draft EIS/EIR identifies two other Tribes by name and identifies those Tribes as having concerns about the cultural resources of the area, it is imperative that BLM engage in meaningful face to face consultation with other Tribes not merely sending a written communication.

322 308. The BLM Manual Handbook H-8160-1 "General Procedure Guidance for Native American Consultation" contains specific text with respect to what is appropriate for the consultation process. In part it states that in initiating contact with Native Americans: "A return receipt from certified mail will verify notification, but by itself will generally not be adequate to establish a good faith effort to enter Consultation (except in established relationships where mail communication is mutually agreed to be sufficient ...)." (BLM Manual H-8160-1 at p. III-8.)

323 309. Consultation and coordination in meetings should be narrowly focused on the proposed BLM action, or the planning area involved, with the goal of developing: (1) a specific description of the places and/or values at issue; and (2) potential management options to avoid or minimize any negative consequences to Native American cultural and religious values and practices. (BLM Manual H-8160-1 at p. III-11.)

E. How Much to Do

There is no simple measure of sufficiency of Native American Consultation efforts. Managers and staffs must evaluate the --

- potential harm or disruption a proposed action could cause;

- alternatives which would reduce or illuminate potential harm or disruption;

- completeness and appropriateness of the list of Native American groups and individuals consulted;

- nature of the issues raised;

- intensity of concern expressed;

- legal requirements posed by treaties;

- relative productivity of Consultation; and

- need for further Consultation --

on a case-by-case basis.

All such judgments should be well-documented to assure a complete record of the authorized officer's good faith efforts to identify, contact, consult, and respond to Native American cultural concerns before reaching a decision.

In general, enough information should be developed to document how decisions were reached when they may potentially affect Native American values associated with BLM-administered lands and resources.

It is important to keep in mind that many, perhaps most specific issues of Native American concern will not be issues associated with cultural resources such as archeological sites.

Native American cultural concerns are likely to center on issues of access, collection and use of

plants and animals, protection of religious places, and incompatible land and resource uses.

A good way to gauge whether the BLM's consultation efforts have been sufficient is to mentally step outside ones actual role, then to consider the degree to which an outsider's objective review of the decision record would find a good faith BLM effort to identify, notify, involve, and respond to all Native Americans potentially affected by a proposed decision. How it looked to an Indian? To a judge? To the press? (BLM Manual H-8160-1 at p. III-11, III-12.)

324 310. Based on our experience of listening to the concerns of the Quechan elders and tribal representatives of other Native American people living along the Colorado River, we believe that BLM has not met its obligations with respect to consultation with Native Americans.

325 311. The Draft EIS/EIR at p. 3-85 includes a list of six specific issues of concern to the Quechan with respect to their religion and religious practices. These issues point out the absolutely essential nature of the proposed project area to the continued survival of the Quechan religion and belief system.

SECTION 3.6.2.3. CULTURAL RESOURCES SURVEY RESULTS

326 312. At one place on DEIS/EIR p. 3-91 it states that of the 88 prehistoric and historic cultural resource sites, 28 do not meet NRHP criteria. By our calculation this would mean that 60 sites do meet the NRHP criteria. However, the next paragraph in the Draft EIS/EIR states that 55 sites were evaluated as eligible for the NRHP. What was the explanation for the difference in these two figures?

327 313. Technical Appendix L at Table 5.12 at pp. 257-258 found four times as much cultural resource material during this survey as was found during the previous one for the 11/96 Draft EIS/EIR for the proposed Imperial Project. But why were fewer cleared circles observed? In any event, as the authors of the 1997 and cultural resource Technical Appendix note "Such dramatic differences in results surely affect archeological interpretation." "The current survey was also able to show a greater use of the area for ceremonial use, and the greater importance of the area as a transportation corrodor was indicated by the identification of a more complete trail system in the western portion of the project." (Appendix L at p. 259.) As a result of the additional surveys it was "determined that there appears to be a real concentration of cultural material within the Project mine and process area and that this concentration appears to be part of a larger pattern extending from Indian Pass to the Running Man site. Context from oral history clearly attested to the great significance in importance of this area to the Quechan." Appendix L at p. 259.)

328 314. Within the text of the Technical Appendix L p. 259, but never referenced within the body of the Draft EIS/EIR itself is a very troubling statement which once again reflects the cultural insensitivity of those employed by the project applicant and others engage in exploratory drilling supposedly under the supervision of BLM and the County of Imperial. In its discussion of the differences between the results of the 1996 and 1997 cultural resource surveys, the Technical Appendix states that: "If this survey had been conducted before any exploration drilling of the area in the 1980s was conducted, then numerous impacts to trails, site areas, and features would have been avoided or required mitigation." (Appendix L at p. 259.) How is it possible to determine in whether the impacts to the trails, site areas, and features occurred during exploratory drilling in the 1980s or during exploratory drilling by those employed by the project applicant during the 1990s? Regardless of the time frame during which those impacts occurred, any exploratory drilling in the project vicinity should have been conducted with prior approval and oversight by the BLM ECRA and pursuant to an approved Reclamation Plan by the County of Imperial. The fact that any degradation and impacts to the cultural resources within the past 20 years suggest of failure on the part of

both BLM and County to provide meaningful pre-drilling cultural resource analysis and to provide adequate monitoring. This is precisely the kind of problem that arises from BLM's purported categorical exemptions for small mining activities and from BLM's willingness to allow exploratory drilling to be piecemealed to avoid the preparation of a more comprehensive Environmental Assessment which would cover more adequately the full extent of the potential impacts of exploratory drilling on sensitive cultural resource values. As noted earlier, it was this piecemealed attempt related to exploratory drilling that resulted in the failure of BLM and County of Imperial to notify the Imperial County Fish and Game Commission and US Fish and Wildlife Service. The piecemealed exploratory drilling also resulted in the failure of both County in BLM to provide adequate or meaningful notice to the concerned public, especially to the Quechan Indian Nation.

329 315. Obviously the impacts to cultural resources that occurred at the result of the exploratory drilling identified at Appendix L (p. 259) were not so extensive that they impaired a recommendation for eligibility to the National Register Of Historic Places, but it does raise questions about the adequacy of public oversight in protecting important resource values. Furthermore we wonder if the implied damage to cultural resources constitutes "peremptory degradation" referenced in Section 110 k?

330 316. Returning to the present situation, how can BLM fulfill its obligations to Native Americans if it states a preference for approval of a project which will destroy so many cultural resource sites which are so important to Native Americans and which are so central to their religious beliefs? Based on discussions during and after both the State and BLM State Director Consultation with the Quechan Cultural Committee and Tribal members, we expect that the sites sacred to the Quechan will be recommended as eligible for the NRHP.

CULTURAL RESOURCES TECH APPENDIX STATES ADDITIONAL RESEARCH IS NEEDED.

331 317. The Technical Appendix points out in many places how with the passage of time the understanding of the significance of archeological and cultural resources has changed. Over a period of 19 years, research by those associated with the Imperial Valley College Museum has led to the understanding that what is known as the "Plug Site" might be a solar observatory site. (Appendix L. at p. 80, 117.) However, the Plug Site, where DEIS comments reference to a solar observatory site which would have spiritual significance, is among the issues cited as needing "more detailed research". (Appendix L. at p. 116,117.)

332 318. Appendix L identified the need for more research a number of places including at pp. 41, 45, 80, 81, 85, 86, 89, 93, 97, 103,108, 117, 206, 260, 263, 271, 272, 276, 281, 297, 298, 299, 301, 303, and 317.) The need for additional research related to cultural resources was also cited by VonWerlhof's statement to BLM State Director Ed Hastey related to the need for 20 years of research to understand the relationship between archeology, religion, and culture at this particular site.

333 319. "Archeological research is probably the only promising avenue for those who want to know more about traditional Quechan settlement systems." (Appendix L. at p. 85.) "... Because of the possibly of research in the area,. The people who utilized our area in the Patayan and Historic periods... Understanding the archeological manifestations of temporary camps for our Project area is far from straightforward." (Appendix L. at pp. 86,87.)

334 320. In addition to citing the need for additional research to understand the cultural resources/archeological resources and the relationship of these resources and the area to the Quechan

have been missed.

> Rogers points out that one must be quite perceptive and have the benefit of low angle, morning or evening light to discern some of them [cleared circles]. "The non-boulder-rimmed sleeping circles, trails, and some ceremonials are so much a part of the present land forms that many are observable only under the most favorable lighting, crosslight just after dawn or just before sunset (Rogers 1966:43)." (Appendix L. at p. 88.)

335 321. This certainly has been the experience of one of our members who lives adjacent to public lands containing an intaglio. Having viewed it dozens of times late in the day, it remains difficult if not impossible to find the same feature during midday.

> Because of the indistinct nature of some cleared circles and other desert archeological features, one must make evaluations on the basis of education and experience and one's attitude toward error. A false positive error can be rectified by further research and future improvements in technique and technology. A false negative (failing to record a problematic, questionable resource) may result in a potential resource being destroyed. In terms of managing cultural resources, it would seem preferable to err on the side of recording problematic potential resources rather than losing them forever. (Appendix L at p. 89.)

336 322. Unfortunately, the Draft EIS/EIR text discussion of significance of cultural resources and the need for additional researce is not as strong as that in the Technical Appendix.

SECTION 3.6.2.4. AREA OF TRADITIONAL CULTURAL CONCERN (ATCC)

337 323. The Indian Pass-Running Man ATCC includes portions of a major trail system, areas of high religious and cultural significance, and expansive views of geologically distinct mountain formations in all directions. The Draft EIS/EIR states that this ATCC should be treated as "a significant resource". (Draft EIS/EIR at p. 3-92, 3-94.) This ATCC has been identified as eligible for the NRHP and has not been severely impacted by existing modern development. The Draft EIS/EIR acknowledges that Quechan are extremely concerned that the proposed project would cut off their ability to use this area and its important trails for their traditional cultural and religious purposes.

SECTION 4.1.6. CULTURAL RESOURCES

338 324. The Indian Pass-Running Man ATCC, including the affected Section of the Trail of Dreams, is evaluated as eligible under Criteria "A," "C" and "D." The Project mine and process area cannot avoid impacts to the Indian Past-Running Man ATCC. According to knowledgeable Quechan representatives, development of the Project would destroy their ability to use the Indian Pass-Running Man ATCC for religious and educational purposes, which would have a "devastating" impact on their cultural heritage. (Draft EIS/EIR at p. 4-83.)

The text additionally discusses the impacts on the Quechan ability to physically, visually, and spiritually travel along the trails, the visual intrusion of leach pile and waste rock stockpile, the disruption of solitude created by the proposed mining operations, and impacts of these effects upon their religion and culture. "These impacts to the Indian Pass-Running Man ATCC are considered significant." (Draft EIS/EIR at p. 4-83.)

339 325. The importance of disruption of solitude to Native American religious and cultural practices is eloquently detailed a Declaration of Angelo Schunke in support of the appeal of Final Agency Action and

included with the Appellants Brief in Case No. 98-70033, Morongo Band of Mission Indians vs. Federal Aviation Administration and William Withycombe, Regional Administrator, Federal Aviation Administration filed at the Ninth Circuit Court Of Appeals on 3/30/98. (Exhibit YY-98.)

340 326. A portion of Mr. Schunke's declaration is cited here because it captures the essence of the relationship between solitude, religion, and culture for Native Americans.

2. My family and I use the canyons and sacred sites on the Reservation to meditate, pray, worship, and reflect, just as our ancestors did before us. Until two weeks ago, there was rarely any significant noise in these areas apart from natural noises such as wind rustling in the trees and other sounds of nature. This quiet does something deep inside, allowing me to hold my thoughts on the Creator and nature, my ancestors and spirit, and to feel my heart and soul. In our tradition to experience the Creator and Spirit we must have nothing else around the nature and quiet. There must be no human distractions. That is why the mountains and Sacred areas of our Reservation are off-limits to development and visitors. They are our church. They are the last places where we can do this, where we can honor and exercise our heritage. These spiritual practices are the chain that bind us to our past and to our future. It is what we as a Tribe have to offer. If we don't have prayer and meditation in the sacred places leading us all the way to death, then there is nothing left.

3. I take my nine year old son and my five-year-old daughter into the canyons to worship, to pass on our traditions. When my children are in this quiet nature they know without talking. When they listen they understand without hearing. When we leave the canyon, they know what I cannot teach. The jets will take that away from them, and from all of us.

4. About two weeks ago the jets started coming over every few minutes. They are intensely disturbing and prevent my prayer and worship. With the jets coming overhead, it is like someone turning on the TV in the middle of a prayer or church service. What you are trying to get away from has crept in and taken the center stage. The chain is broken, the connection is gone. And there is no escape from this noise. The rumble of jet turbines is unmistakably manufactured, man-made.

5. I also participate in many other aspects of the Tribe's spiritual life, including pow wows and other gatherings, peon games, campfires, and storytelling. All of these practices are affected by the jet noise. If the jet noise continues, all of these cultural and spiritual practices will become futile, they will lose their sanctity, their purpose and effect.

6. If we can't pass down the beauty of our traditions and beliefs, of what we stand for, what can we pass down? If we cannot practice and perpetuate our spiritual culture and tradition, what is left of our identity? There is no compensation for what prayer and meditation does for your heart, soul, vision. It is not for sale, and it hurts when it is ripped away by jet noise. There's nothing else that can be taken from us. This is the last thing that can be done to hurt us, to take away our spiritual essence as a people. Please do not do this.

341 327. These sentiments are not unlike those that have been expressed by the Quechan with respect to their concerns about the proposed open pit mine project known as Imperial Project and how the impacts of that proposed mining operation would interfere in with the visual and solitude aspects of religious practice for the Quechan in their open air "cathedral".

342 328. As evidenced by the above Imperial Project DEIS text, the mitigation measure 4.1.6-1 (which would result in slightly reducing the heights of wasterock stockpile and reconfiguring remaining wasterock stockpile or eliminating the wasterock stockpile) will in no way mitigate the impacts to the religious values in the opinion of the Quechans. The Draft EIS/EIR states that the resulting impact would be that:

"Numerous prehistoric cultural resources determined to be eligible for NRHP... would be subject to either direct or indirect impacts from the project." (Draft EIS/EIR at p. S.-44.) Even after mitigation, the resulting impacts would be "significant and unavoidable" for those sites. Although this mitigation measure may appear to have some value to non-Indians, it can no way mitigate the impacts for the Quechans or archeological research. Similarly, mitigation measure 4.1.6-2, which states that the applicant shall designate a project contact representative (PCR) to be responsible for compliance with conditions and stipulations related to cultural resources, is of no value to those who believe the proposed project would irreparably destroy cultural and religious resources and values and archeological resource values at the proposed project site.

343 329. Beginning with Draft EIS/EIR at p. 4-84 and continuing through p. 4-87, a review of the included mitigation measures must have been extremely traumatic for the Quechans who are concerned about cultural and religious values of the area. The text acknowledges the importance of these resources to the Quechans, but essentially states that either the resources in the area will be completely destroyed or impacted to such an extent that their value is destroyed for the Quechans in their ability to use the area for their traditional religious and cultural purposes. This list of proposed mitigation measures is incapable of mitigating the significant impacts of the proposed mining project on the Indian Pass-Running Man ATCC as described in Draft EIS/EIR p. 4-83. They appear to have been drafted to ignore the concerns of the Quechans. We respect the cultural and religious differences of the Quechans and other Native Americans and believe that the proposed mitigation measures with respect to cultural resources are inconsistent with the stated policies and Memoranda of Understanding which are included in the CDCA Plan Final EIS Appendix D. There is no reason to destroy the culture and the religion of the Quechan by approving an open pit cyanide heap leach mine at the proposed site when the ore grade is so low, because gold is not a strategic mineral, and even if it were, it can be obtained at other open pit mine areas already in operation in the California Desert or in Nevada where the ore grade is higher. (See Newmont Gold 10 K SEC report for nevada ore grades.) Once again, BLM has no mandatory duty to approve a plan of operations to make mining financially profitable, when to do so would result in the total destruction of such important archeological, cultural, and religious values. Providing the cultural education program or providing for the expansion of the Quechan Museum are inadequate and poor substitutes, totally unacceptable in the face of the destruction of the resources and of the physical area at the proposed project site.

344 330. These Native American uses are consistent with the position taken by the Sierra Club California/Nevada Conservation Committee at its March 1997 meeting. The motion passed at that time includes the following text: "Sierra Club respects the different cultural and religious traditions of the Quechan Tribe and requests that BLM and Department of Interior actions respect Quechan concerns and withhold approval of Chemgold's [now Glamis Imperial] proposed open-pit mine in a place never disturbed by previous mining activity." (Exhibit X-98.)

345 331. Mitigation measure 4.1.6-16 states that "consultation should be initiated with the Quechan to identify a site of traditional concern that could be acquired and protected." (Draft EIS/EIR at p. 4-86.) It should be painfully apparent from the repeated and passionate statements of Quechan elders and members of the Quechan Cultural Committee that the site of traditional concern that they believe must be protected is the site of the proposed open pit mine project. Having reviewed the text of the proposed mitigation measures in 11/97 Draft EIS/EIR, it is easy to understand why Quechan elders become so angry at BLM officials during Consultation meetings which were attended by Harmons and VonWerlhof 11/97 and 12/97. Representatives of the Sierra Club have been present at the November and December 1997 BLM Consultation meetings held in the Tribal Chambers with members of the Quechan Cultural Committee and tribal elders. At those meetings, BLM officials would concur that they understood and agreed with the

Quechan's assertion that the proposed mine project would irrevocably and completely destroy the cultural and religious values which the Quechan hold essential. At the November meeting, this concurrence was almost immediately followed by the phrase: "but the 1872 Mining Law..." BLM's suggestion that open pit mining was more important to the Federal government than any agreements or any regulations or policies related to respecting Native American religious practices points out the agency's cultural insensitivity and lack of respect for the Quechan religion and religious practices in eyes of the Quechan and the independent observers present by invitation of the Quechan Cultural Committee at those consultation meetings. Not only were the Quechan upset by the tone of these consultation meetings, but the non-Quechan observers were also upset.

346332. As was acknowledged by BLM State Director Ed Hastey, any apparent Quechan willingness to discuss any of the proposed mitigation measures is meaningless. (A discussion of the Quechan view of the proposed mitigation measures is included in Technical Appendix L: "Where trails across: cultural resources inventory and evaluation for the Imperial Project", Chapter 8.) This is because the pressure on the Quechan to discuss mitigation measures was so intense that the only way to eliminate that pressure was to meet with the consultant. Ed Hastey acknowledged the pressure that had been put upon the Quechan elders and members of the Cultural Committee. At the 12/16/97 BLM Consultation meeting with the Quechans, Ed Hastey acknowledged that he understood that there were no mitigation measures which were acceptable to the Quechan. He further stated that he understood that this was an issue of religion vs. the mining law. Hastey stated that no validity exam had ever been performed to determine if the mining claims in question are valid, but he stated that he would order such a validity exam. (When will the validity exam be performed, and when completed?)

347333. The proposed mine project would not avoid all significant adverse impacts to the Indian Pass-Running Man ATCC, including the Trail of Dreams, seven multi-component archeological sites, and 12 prehistoric trail sites in the proposed mine and project process area. (Draft EIS/EIR at p. 4-87.) Based on the information available, it is assumed that these eligible resources will eventually be added to the NRHP, and that any BLM approval of the proposed plan of operations would result in significant and unavoidable adverse impacts to the cultural resources and use of the area for religious purposes by the Quechan. Any such BLM approval would therefore result in "undue" and/or "unnecessary" degradation and impairment of cultural resources and religious values (as described in the CDCA Plan, FLPMA, and Federal regulations), and be violative of BLM's 1980 MOU related to Native American free access to use of sacred sites for religious purposes; and, therefore, the plan of operations as submitted for the Imperial Project should not be approved.

348334. During the past year, members of the Sierra Club have met dozens of times with Quechan tribal elders and members of the Quechan Cultural Committee to discuss their concerns about the impacts of the proposed open pit mining project on their culture and to their religion. On numerous occasions, Quechan archeologist Lorey Cachora and other tribal elders have met with members of the Sierra Club, Audubon Society, Desert Protective Council, Desert Survivors, local clergy, and other organizations at an existing disturbed campsite on what would be the proposed West Pit to discuss the significance of this area and its resources to the Quechan culture and religion. On many occasions, non-Indian archeologists were also present and participated in the discussion. These on-site discussions also explained that in the Quechan view no mining is acceptable, not even underground mining, because the land is sacred at both the surface and beneath the surface. There appears to be no conflict or disagreement among the views of archeologists and Quechans regarding the importance of this area for both archeological purposes and for the Quechan culture and religion. This additional knowledge reinforces the position that the Sierra Club took one year ago opposing the mine project on Indian Pass Road.

349 335. These comments were prepared after a rereading of the cultural resources technical appendices (DEIS 96-J) for the Imperial Project 11/96 and (DEIS 97-L)for the Imperial Project 11/97 DEIS, written personal communication and written submissions for the public record from retired Imperial Valley College professor of archeology, Jay Von Werlhof (JVW), Quechan archeologist, Lorey Cachora, Quechan Tribal president, Michael Jackson, Sr., Quechan Cultural Committee. Chair. Pauline Owl, written and oral communication, and transcripts of oral statements at public hearings by Quechan cultural committee members, bird singers, archeologist, tribal president, and tribal members, in addition to review of Mander's 1991 In the Absence of the Sacred, a past Quechan Tribal Council President, Elmer M. Sevilla's 1996 Along the Trail, A story of "One Little Indian", and A Basic Call to Consciousness: The Hau de no sau nee Address to the Western World. 1978. Akwesasne Notes, Mohawk Nation, via Rooseveltown, NY 13683. The Quechan world view is remarkably similar to the Hau de no sau nee view and views of other Native Americans.

350 336. DEIS/96-J, DEIS /97-L and JVW cite the presence of numerous ceramic scatters/pot drops, lithic scatters/chipping stations, geoglyphs, cleared circles, rock alignments, rock rings, and trails located within the proposed open pit mine project site. The proposed mining project would destroy almost all of these cultural resources which constitute "a vital and uninterrupted cultural district" (JVW 8/97), and destruction of any portion of this archeological district "would destroy the essence of the whole" (JVW 3/21/97). JVW (8/97) reports that as a result of additional archeological survey work, the "number of recorded cultural resources will exceed 2,000" and that:

> the intensity of the resources reflect the utilization of the area by diverse peoples over at least a 10,000 year period. It is also evident that the area has been utilized in recent historic time, indicating it is more than of archeological or historic interest. It is part of the Quechan living culture. (JVW 8/97)
>
> Some features, as the several scraped rings recorded in different areas, clearly relate to the most sacred of all Yuman rites, the keruk cremation ceremony. Other sensitive religious features include vision quests sites, prayer circles, creation story geoglyphs, power acquisition sites ..., trail systems that tie the area together, spirit breaks and petroglyphs marking certain trails. (JVW 8/97)

351 337. DEIS 96-J and DEIS 97-L acknowledge that the "project area was a major prehistoric travel corridor" and JVW and Cachora state that trails in the area connect with trails that go from Santa Barbara on the Pacific Ocean to Taos New Mexico. No one challenges the view that the cultural resources of the area are essential to an understanding of travel patterns, cultural interactions, trade, conflicts, food and herb gathering, religious and spiritual practices. Quechan elders, JVW, DEIS 97-L, and DEIS 96-J all acknowledge the complex and dynamic Quechan spiritual and religious belief system which intimately connect the prehistoric and historic past going back to creation with the present and extending to the future. None questions that the lands are of spiritual significance, that the Quechans have a pervasive view of religion and its integration with all other activities.

352 338. The Quechan are a Yuman-speaking group of the Hokan super- family whose ancestors have lived in dispersed villages along the resource and water rich Colorado and Gila Rivers for thousands of years.

> For the traditional Yumans of the Colorado River, religion and world views guide their approach to the significance of cultural resources (Baksh 1994). It is difficult to faithfully portray the complexity and esoteric nature or Yuman spirituality because it is a dynamic belief system in which dreaming, adherence to traditional learning, personal experiences, and varying patterns of acculturation effect its expression. This world view stresses the interconnection of daily life with religion, unlike western industrial society where the sacred and secular are more clearly segregated. The secular world exists concurrently with the spiritual world for the traditional

Yumans, and the latter can be experienced through dreams, vision quests, song cycles, the telling of the creation narrative, and oral traditions (Kroeber 1925). So too does the prehistoric and historic past exist as a continuum with the present, and all things harken back to the creation.

History is retold in the oral traditions of the Yuman peoples and in fact, prehistory and history are considered indistinguishable. Therefore the archeological remains are interpreted with multiple layers of meaning that integrate spiritual values and oral traditions. (DEIS 96-J at 56.)

353 339. Quechan elders have submitted passionate letters and oral testimony and shared songs/stories in their decades long attempts to explain the sacred and spiritual importance of not just what non-Indians call individual "cultural resources", but of the entirety of this area to the central essence of their lives, culture, religion and traditions. What non-Indians may call a "sleeping circle" is for the Quechans "a way of getting from one place to another world". (Cachora in Reporter's Transcript (RT) 2/6/97 at 14.) Quechan elders admonish non-Indians that when mining activity, including exploratory drilling, is allowed in sacred areas "you are destroying our culture, our religion, our beliefs" (RT 2/97 at 15). As Wally Antone (2/10/97) wrote: "Non-Indians have no rights to give the lands, culture, religion and traditions away." He is right.

354 340. Quechans also believe that creation of huge man-made rock piles associated with the mine project would create "an enormous shadow during morning hours and completely alter its [the area's] purpose and destroy its future use forever." (Quechan Cultural Ctte. 2/10/97.)

355 341. No Federal regulations require that Indians must explain in terms non-Indians can comprehend regarding the details or significance of various aspects of the Native American's spiritual, religious or cultural beliefs in order that they be accorded the respect and consideration spelled out in Executive Order No. 13007 re Indian Sacred Sites. Because neither Glamis Gold nor any of its wholly owned subsidiaries listed at various times as project applicants for the Imperial Project has filed or been awarded any patent claims in the proposed project area, there are no previous plans of operations for mining that have been approved, many believe nothing can be "construed to impair enforceable rights to use of Federal lands that have been granted to third parties through final agency action" as spelled out in Executive Order 13007, Sec. 3. Consequently, we believe that Order 13007 Sec.1 requires that BLM as an

> "agency with the administrative responsibility for management of Federal lands shall...(1) accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners and (2) avoid adversely affecting the physical integrity of such sacred sites."

This should not mean access amid open pits and towering piles of leach pad and waste rock of the proposed cyanide heap leach mine.

356 342. Those of us non-Indians privileged enough to have experienced the proposed project site can attest to the beauty, awe-inspiring expansive openness with significant topographic relief of distinctive mountains, and quiet solitude. The fortunate among us have come to understand the Quechan's explanation that "the creator put the trails there for our safety and our convenience" as we travel through life. Quechan elders have participated in on-site educational outings with non-Indians. The willingness of Quechan elders to share their concerns about the cultural and religious significance of the proposed mine site, the use of the area for teaching Quechan ways to their young has greatly increased intercultural awareness, respect and understanding of how earlier peoples lived in this arid environment and some of the beliefs that guided their lives. We are convinced that protection of this area, with its expansive views and cultural resources, is as important for non-Indians as it is for the Quechan as we all seek to understand human adaptability and how people thousands of years ago lived in harmony with the most challenging of environments without modern technology. As the Dept. of Interior states, this is America's cultural

heritage. (USDOI "Our Fragile Legacy".)

357 343. Those of us who have spent seemingly endless hours, days and weeks with loved ones before their deaths have come to understand that even non-Indians also experience times when the world of dreams, the ability to see people and places and communicate with spirits not visible to the rest of us is indistinguishable from the reality of the here and now. We have learned that visual images in the surrounding physical world play a significant role in the ability to easily and safely move between the dream reality and physical reality, and that the two are truly indistinguishable. Quechan elders on site explanation of the significance of cleared circles in their dream experiences has made a lasting impression on many and helped us better understand our own experiences.

358 344. The most common religions (Christianity, Judaism and Islam) of non-Native Americans today look to historic holy places in the Middle East, thousands of miles away across the ocean. Indeed, each of these religions had its origins in the desert areas if the Middle East. If we consider what holy places in the Middle East mean to followers of those religions and the thousands of years of conflicts continuing to this day to protect sacred sites, we can better understand the desire to protect sites sacred and culturally significant to nearby peoples, including the Quechan. Perhaps distance to sacred sites explains the difficulty of non-Indians in understanding the significance and value of sacred lands and the role these nearby sacred lands play in the religious, spiritual and cultural life of Quechans today. For the Quechan it is the land and associated elements of cultural resources that are sacred, not some man-made structure.

359 345. The views of mining as a desecration of the earth are not unique to the Quechans, but are representative of the Native American view of mining. We cite the following as an example of traditional Native American views of mining. Joe Sanchez, a western Shoshone, spoke of the failure of non-Native Americans to understand Native American issues (including mining) at a 12/86 meeting in San Francisco:

> For most Americans, land is a dead thing. It means nothing. But to disconnect from the land is unthinkable to Indians. The land is everything. It's the source of our existence. It's where the ancestor's spirits live. It is not a commodity that can be bought or sold, and to rip it open to mine is deeply sacrilegious to all Indian people. Nowadays most Americans live in or near cities. They have no connection with the dirt, with the earth. They have no way of identifying with the most essential feelings that define Indian experience and values. So they don't take us seriously. When our elders try to explain that Indian people die if they are removed from the land, Americans don't know what they're talking about..The schools and media don't help. The public pretty much assumes we're all dead and gone. We are invisible to Americans and so are our causes. To Americans we are just part of some story about the past, somehow connected to their own pioneer heroics. (in Mander, J. 1991. In the Absence of the Sacred. Sierra Club Books. p. 223.)

360 346. The Department of Interior said it well in its publication entitled "Our Fragile Legacy":

> America's past is *everyone's* legacy. It is a *fragile* legacy, and its protection and preservation are everyone's responsibilities. .... We now recognize that the sites and objects representing America's cultural heritage deserve our respect and protection -- because they are *our* fragile legacy.
>
> For many American Indians places and objects that non-Indians term "archeological sites" and "artifacts" are alive with ancestral and other spirits, and therefore are infused with special traditional, ceremonial, sacred, and other cultural meanings. The past is not background to the present that it is for many non-Indians, but rather is part of the present. House mounds, petroglyphs, springs, shrines, trail markers, landmarks, and unusual landscape features, as well as artifacts of clay, stone, bone, fiber, and shell, belonged to ancestors, and can serve as channels through which the past becomes part of the present. Many Southwestern Indians take strong

exception when others speak of the "disappearance" of their ancestors. They believe that the people who lived in prehistoric sites simply moved away, in many cases to places that are still occupied by their descendants. (USDOI NPS undated.)

361 347. The 11/96 DEIS/EIR includes the following quote from Quechan elder, Lorey Cachora, who is also a trained archeologist:

So the mountains along the Colorado River region are highly significant in regional Native American cultural and ethnic identity. Spiritual activities and events are deeply associated with numerous intaglios, petroglyphs, trails, lithic scatters, and cleared circles present along the Colorado River and surrounding hills.

Today we fear that disturbance of this area or any area would result in the destruction of this aspect of traditional culture and religion. As a physical feature and a spiritual cornerstone, some sites cannot be replaced or relocated. Sites are often indistinguishable from the land by the untrained eye or those unfamiliar with regional Native American culture. Any damage, once done, can never be undone. In order to avoid heavy-handedness, it might be pointed out that some cultural resources have been there since creation, according to Quechan beliefs, and the songs in the mountain will last forever as well. This is a very long time to regret a thoughtless act (Cachora 1994:13-14.) (quoted in 11/96 DEIS/EIR Appendix J-1 Cultural Resources Inventory for the Imperial Project.)

362 348. And as Bill Weahkee stated, "Someday we're going to be ancestors ourselves. That's important. And we want the people in the future to say our ancestors thought enough about us to keep this land intact." (Quoted in USDOI NPS.)

363 349. A full page Imperial Valley Press (7/2/89) interview with Peter Ertman, then BLM's El Centro Resource Area resources manager, before he left for a BLM post in Washington DC, is informative in pointing out the failures of BLM with respect to this proposed open pit mine. Notable were Ertman's responses:

Q. What is the biggest failure? Where have you made mistakes? What are you the least proud of?

A. .... Another failure is having valuable resources and not having adequate staff to manage them. .... And watching unreplaceable cultural resource sites getting run over by thoughtless people who don't follow our signs, that always hurts. That's probably the worst part.

Q. ..What do you have left to do? What do you think needs to be done to preserve cultural resources, plants and animals?

A. Keep educating the public. .... You educate the public and build a trust level. We really need to build a trust level so that we rank above used car salesmen.

364 350. Have BLM's actions with respect to this proposed mine failed or succeeded? If destruction of irreplaceable cultural resources by individuals was one of BLM's worst identified failures in 1989, isn't possible BLM 1998 approval of an open-pit mine project infinitely worse and even more unacceptable after BLM's distribution of an EIS/EIR which publicly points out destruction of scores of cultural resource sites of major significance to Quechan tribal members today? Will the public see a good example or a "used car salesmen" image from BLM decisions? BLM must also comply with the letter and intent of the text of its 1980 CDCA Plan, its FEIS and Technical Appendices for cultural resources and Native American issues, including the signed Memoranda contained therein.

365 351. BLM is just one agency within the Department of the Interior. It is our responsibility to remind BLM that federal regulations state that the Secretary of Interior "shall by regulation or otherwise take any

action necessary to prevent unnecessary or undue degradation of the lands"..."or to afford environmental protection." The 1980 California Desert Conservation Area Plan places environmental resource protection on equal footing with mineral development, not subservient to mining or the 1872 Mining Law. Times are changing and so too must the 1872 Mining Law to meet the will of the American people. The time for a new vision is now, and the place is the Indian Pass area to protect cultural resources from destruction by open pit mining.

366 352. We can do better, and we must do better at understanding the values and beliefs of Native Americans and at demanding respect and protection for cultural resource sites so important to local people whose ancestors have used the lands for thousands of years. These public lands that have inspired many users for thousands of years and continue to do so today deserve protection. The non-mineral resource values identified in the Imperial Project DEIS documents, together with the statements of significance by the Quechan Cultural Committee, Quechan elders, and archeologists form the background for our recommendation that the proposed mine plan of operations, reclamation plan and permits be rejected or denied and a larger area of which the proposed project is a part be withdrawn from mineral entry to protect non-mineral resource values for the benefit of present and future generations.

THE IMPORTANCE OF LONG-TERM PLANNING FOR MINERAL AND NON-MINERAL RESOURCE VALUES ON PUBLIC LANDS

367 353. The importance of long-term planning for mineral and non-mineral resource values on public lands is well explained in a 1979 publication by the National Research Council which includes the following discussion:

368 354,. In addition to being a mechanism for setting objectives for mined lands, the planning process is a proper vehicle for designating land as suitable or unsuitable for mining. This is recognized in PL95-87, which provides for the designation of areas unsuitable for all or certain types of coal mining through a planning process carried out by the individual states and through a review of federal lands (Section 522). The planning process provides the obvious opportunity to weigh the potential value of a tract of land devoted to mining against its values if devoted to current or prospective non-mining uses.

369 355. The value of mineral-bearing land for mining varies widely, but in all cases it is finite. For marginal mining properties, the value of the land for mining is near zero. Some shallow deposits will have a value on the order of $100,000 per acre. For a large copper mine, such as the Bingham open pit in Utah, and other higher grade copper, molybdenum, and precious metal mines, the value of the land for mining may be on the order of $2,000,000 per acre. Similarly, the value of land for non-mining uses varies widely with the same general range as that for mining, but also is finite in all cases. A major function of the land use planning process is to recognize and weigh public values for which the normal markets for land provide little or no guidance and to supplant market decisions on land use with those of the planning process.

370 356. For minerals, planning decisions could lead to designation of land as unsuitable for mining because the expected total public and private values in non-mining uses exceed the expected value in mining uses. However such decisions could also lead to designation of areas as 'suitable primarily for mining'. The latter designation could be used not only to avoid needless future conflicts after incompatible developments have taken place on mineral bearing lands, but also to protect nationally important mineral lands. PL95-87 uses designation of land as unsuitable for coal

mining to protect non-mineral values. However the great variability in non-coal mineral values, as well as the limited occurrence of some major non-coal mineral deposits, suggests that designation of limited areas as suitable primarily for mining to protect mineral values is a concept of at least equal importance." (National Academy of Sciences. 1979. Surface Mining of Non-coal Minerals. Pp 266-67.)

371 357. For additional perspective we include the text of a publication by the Office of Technology Assessment which includes the following discussion about non-mineral resources on public lands and the values of those non-mineral resources:

372 358. Federal onshore land is also a major locus of certain non-mineral resources, including timber, forage, watershed, wilderness, scenic and natural areas, wildlife, and outdoor recreation. Initially this was a result of historical accident, as the most remote and scenic federal land areas generally had little commercial value and were passed up by homesteaders. Eventually, many areas of the remaining public domain intentionally were set aside and reserved to protect and preserve such non-mineral resources. The federal government came to be recognized as the appropriate trustee of areas containing unique or important non-mineral resources, particularly the non-commercial ones. Areas containing such resources on non-federal land began to be acquired by the federal government through purchase or donation - a process that has continued into the present, and which, together with the public domain areas, make the government's holding of such resources among the most significant in the world. (Office of Technology Assessment. 1979. Management of Fuel and Non-fuel Minerals In Federal Land. Pp 176.)

373 359. The vast majority of federal land, as well as the majority of metal mining districts in the United States, lie west of longitude 100. ....the metallic mining districts, which are areas with past or present production or known to contain metallic mineral resources, in many cases are in or adjacent to areas set aside to protect non-mineral resource values. Exploration geologists believe, based on projections from known areas of mineralization, that mineral belts possibly containing undiscovered mineral deposits exist in nearby areas set aside or being set aside to protect non-mineral resource values.

374 360 This juxtaposition of mineral resources and non-mineral resources on federal land did not cause much conflict until recently, primarily for two reasons. First, most non-mineral resources, especially the non-commercial ones, were not valued nearly as highly as mineral resources; thus mineral development and production proceeded with little or no objection. Second, many of the most significant non-mineral resources, including especially the non-commercial uses, were in geologically complex areas that sometimes were passed over by mineral explorers in favor of more accessible areas containing more easily identifiable mineral deposits. Today, however, non-mineral resources are being valued more highly than before by many citizens, and mineral explorers are turning toward more remote and more complex targets. Consequently locational conflicts are occurring more frequently between mineral and non-mineral resource activities and uses. (Office of Technology Assessment. 1979. Pp 177-78.)

375 361. During the early part of the 20th century, when there was generally a lax attitude toward administration and enforcement of the mineral laws, the 'prudent man' test received fairly widespread application, although it never completely displaced the present value and comparative value tests, which continued to crop up in judicial and administrative decisions. With the current heightened concern over non-mineral resource values, the present value test has returned to

prominence in the form of the marketability test, which requires proof that a deposit can be presently mined and marketed at a profit.

376 362. The comparative value test is generally dormant, but it also could be revived. In 1973, the Department of Interior's Board of Land Appeals, over the dissent of three of its members who felt the issue was not ripe for decision, rejected the comparative value test on the basis of a 1914 administrative decision. However, the board apparently was unaware of (a) line of judicial and administrative decisions since 1914 that have cited the comparative value test, (b) evidence of congressional approval of the test, and with court decisions that have mandated inclusion of non-mineral values in agency decision making processes. Two recent court decisions suggest that a return to the comparative value test may be required by NEPA. (Office of Technology Assessment. 1979. Pp 198-99.)

377 363. One problem associated with the concept of withdrawals and the absence of long term planning decisions is the widespread practice of mining companies locating or buying up existing claims in an area, which "can attract government interest in buying out the claims in order to avoid mineral development inconsistent with the purpose of withdrawal. Mining claims are cheap to locate, cost next to nothing to hold, and provide indefinite tenure." (Leshy 1987:78.) If the prediction of interest in protecting the area is accurate, the claim holder can simply sit back and wait for the government to offer to buy out the claims. Alternatively, the government could contest the validity of the claim. "Extortion is the pejorative term for such strike claims; canny and not grossly illegal manipulation of the Mining Law is a milder way to put it." (Leshy 1987:78.) Planning for mineral and non-mineral values is especially critical given the growing pressure to use open pit mining for very low grade disseminated ores in the CDCA.The importance of non-mineral resource values highlighted by the Imperial Project issues emphasises the urgency of better resource based land use planning by BLM.

BLM SOUTH COAST RESOURCE AREA DESIGNATED THE KUCHAMAA ACEC IN 1994 TO PROTECT THE RELIGIOUS VALUES OF THE KUMEYAAY PEOPLE

378 364. Other BLM resource areas have protected specific sites because of the value of the area for Native American religious practices and beliefs. In 1994 the BLM Palm Springs -- South Coast Resource Area concluded:

> Lands surrounding Tecate Peak (355 acres) and Little Tecate Peak (269 acres) are included in the Kuchamaa ACEC...for the protection of Native American religious heritage. The importance of Tecate Peak (Kuchamaa), and Little Tecate Peak, lies in their extreme religious and spiritual importance to the Kumeyaay. In particular, Kuchamaa holds a special significance because "it is where the shamans obtained their power and knowledge" (Robertson 1982), and where initiates were brought into the Shaman (spiritual/religious) order. Since time immemorial to the present day these mountains have also served as places to hold sacred dances, ceremonies, ancient sacramental acts, and to receive healing and spiritual cleansing.

379 365. These mountains also act today as a cultural link with the Kumeyaay ethnic past and the religious heritage. Parallels have been drawn comparing the Native American view of Kuchamaa to the Christian respect for a cathedral, as both represent places of great religious importance.

380 366. Contemporary Native American religious activities on Kuchamaa have become somewhat expanded from that of the past. Whereas formerly only shamans and their initiates were allowed on the summit, today the summit is open to all Kumeyaay who feel worthy of involving themselves

with a spiritual power of Kuchamaa. Kumeyaay visits to the mountain are for the purposes are praying, spiritual cleansing, and other religious activities (Shipek: Personal Communication). Though religious practices have diversified, the importance of the mountain has not lessened. As a result of the strong Native American religious values held for Kuchamaa, the Mountain has been recently nominated to the National Register of historic places.

381 367. There is a threat that individuals might unknowingly perform sacrilegious acts such as off-road driving, rock-hounding, hunting, or drawing graffiti on these mountains. As a result, Kuchamaa and little Tecate Peak has been designated as an ACEC. Acquisition of approximately 422 acres for addition to the ACEC would be pursued. The ACEC is a right-of-way avoidance area, is not available for mineral material sales or livestock grazing. Motorized vehicle use is limited to specified existing routes. The feasibility of relocating the existing communications site facilities on Tecate Peak will also be explored. (BLM. 6/1994. South Coast Resource Management Plan and Record of Decision. Pages with 101-103. See Exhibit BB-98.)

382 368. Accordingly, given the amount of discussion in the Imperial Project Technical Appendix related to cultural resources and the value of the proposed project site to the Quechan for religious purposes, and the value of the area for the archeological resources, and anticipated ability to be able to link archeological resources to an understanding of Native American culture and religion based on future research as explained by Jay von Werlhoff, there seems no reason why the BLM El Centro Resource Area Office should not similarly afford protection and respect for the areas that the Quechan hold sacred and say should be protected. In order for the BLM El Centro Resource Area Office to afford similar respect for protection, it is necessary that BLM deny the plan of operations for the proposed mine project, and similarly deny any future proposals for exploration in the same area and surrounding areas. The area along Indian Pass Road which is of high archeological, cultural, and religious significance should be withdrawn from mineral entry, and either the existing nearby Indian Pass ACEC expanded or the withdrawn area included in a national monument to protect the resource values for present and future generations. (These suggestions are based in part on our review of Leshy 1987.) Is there any reason why the Quechan religion and religious practices should not be afforded the same kind of protection as was granted sacred places of the Kumeyaay? We think not.

SECTION 3.7. VISUAL RESOURCES

383 369. Creation of a open pit mine on public lands in an undisturbed area is not consistent with BLM Class L, limited use area. BLM's "Management of Class L areas is "oriented towards giving priority protection to sensitive natural, scenic, ecological, and cultural resources while placing limitations on other uses that may conflict with or degrade these values (USDI 1980)." (DEIS 1-13.) Class L is generally consistent with BLM's Visual Resource Management (VRM rating system Class II). VRM Class II states that:

> The Objective ... is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color and texture found in the predominant features of the characteristic landscape. (11/96 DEIS 3-95.)

An open-pit mine on Indian Pass Road fails this test. An open pit mine, fenced with chain link and barbed wire, turns public lands into de facto private lands by excluding all other public uses such as camping, hiking, hunting and rock hounding, use by wildlife, and important religious, educational and cultural uses by Quechan tribal members, etc. Even if the site is reclaimed, there are no plans to reclaim the largest

open pit...so it will remain a wasteland and, even if reclaimed, the mine would forever destroy the ability of the Quechans to continue traditional cultural, religious and educational uses of the area.

384 370. The visual resources discussion in 11/97 Draft EIS/EIR remains inadequate and inconsistent with the type of analysis and views presented for other proposed projects, including the recent Draft EIR for the proposed White Pit, a proposed sand and gravel mining operation just north of Jacumba Mountain Wilderness area in western Imperial County. Figures 4.4-2, 4.4-3, 4.4-4, and 4.4-5 in the 12/97 White Pit Draft EIR all appear to be panoramic photographs assembled by piecing together three or four photographs taken without using a telephoto lens. The White Pit figures for site visibility are of such quality that it is possible to identify the species of individual plants shown in the photographs. By contrast, with the exception of Figures 4-2 and 4-3, all of the other photographs of the visual resources and visual resource impacts included in the 11/97 Imperial Project Draft EIS/EIR were taken with a telephoto lens from such a distance that is not possible to identify any of the plant species at the proposed project site. Although we made a specific request that key observation points be added to disclose the view of the proposed project site for those traveling along the Indian Pass Road immediately adjacent to the proposed project and along the realignment of the proposed Indian Pass Road to the west of the proposed West Pit/ultimately wasterock stockpile, this was never done. Why?

385 371. The Imperial Project Draft EIS/EIR is a joint BLM/Imperial County document intended to comply with requirements of both NEPA and CEQA. Accordingly, it is inappropriate for Imperial County to have two very different standards for what is acceptable for figures/photographs portraying the existing visual resources and the proposed visual impacts of a project. (Compare and contrast White Pit photos with those for the Imperial Project.)

386 372. BLM is a Federal agency, and in addition to applicable federal regulations in the CFR, CDCA Plan, and FLPMA, the BLM has its own Handbook Manuals for implementing policies and regulations. The applicable BLM Handbook Manuals related to visual resources are H-8410-1 "Visual Resource Inventory" and H-8431-1 "Visual Resource Contrast Rating". Therefore, since the BLM ECRA is just one office within the California Desert District, there should be a standard, a consistent standard, of what is acceptable in preparation of discussion of visual impacts. This includes what we believe should be a consistent standard of what is acceptable for photographs of the existing view and the potential visual impacts of a proposed project on federal lands. A review of the March 1997 Draft EIS/EIR Castle Mountain Mine Expansion Project in San Bernardino County, CA suggests that the BLM ECRA accepted a much lower standard for depiction of visual impacts for the proposed Imperial Project that what is found in the Castle Mountain Mine Figures 3.7-5, 3.7-6, 3.7-7, 3.7-8, 3.7-9, and 3.7-10. Once again, in the Castle Mountain Mine Draft EIS/EIR viewpoint photographs, it is possible to identify individual species of plants. Why did the BLM ECRA and Imperial County accept photographs for the proposed Imperial Project from locations at a further distance from the project and of such inferior quality by comparison to other visual resource evaluations for other projects?

387 373. Once again, a revised Draft EIS/EIR must include better quality photographs, panoramic photographs without using telephoto lens, and key observation points along the Indian Pass Road, including along the realigned portion of Indian Pass Road, and from key places of importance for Quechan religious experiences. Only by selecting such viewpoints/observation points will reviewers of the Draft EIS/EIR be able to fully understand the impacts of the proposed project in terms of visual resources/visual impacts to both Indians and non-Indians. If observation points are selected at places considered important for the practice of the Quechan religion, reviewers will easily understand the concern of the Quechan with respect to the visual barriers created by wasterock stockpiles and leach heaps reaching up to 300 feet above

ground level.

SECTION 3.7.1. VISUAL RESOURCES REGULATORY FRAMEWORK

388 374. This section fails to include the discussion contained in the BLM Visual Resource Inventory Handbook related to scenic quality evaluation, scenic quality rating units sensitivity level analysis, and documentation requirements related to the visual resource inventory.

389 375. It is obvious even from the poor quality of long-distance viewpoint photographs in the Draft EIS/EIR that the proposed project is inconsistent with Class II in Table 3.13 "BLM Visual Resource Management Classes". The Draft EIS/EIR discussion fails to include the following discussion related to "Visual Resource Management Classes":

> All actions proposed during the RMP (Resource Management Plan) process that would result in surface disturbances must consider the importance of the visual values and the impacts the project may have on these values. Management decisions in the RMP must reflect the value of visual resources. In fact, the value of the visual resource may be the driving force for some management decisions. (BLM Handbook H-8410-1 "Visual Resource Inventory" Section V.B.2.)

SECTION 3.7.2. EXISTING VISUAL RESOURCES

390 376. We believe that the Key Observation Points (KOPs) which were selected for the visual contrast ratings for the proposed Imperial Project are both inappropriate and inconsistent with the guidelines of the BLM Handbook Manual for Visual Resource Contrast Rating. The assertion that: "Portions of the Project mine and process area are potentially visible only from a short section of Ogilby Road, at the point where the road turns to the northwest approximately four (4) miles southwest of the project mine and process area (KOP #1)" is irrelevant. However, the frequently used Indian Pass Road should have been considered as a location for a K0P, especially where the road lies immediately adjacent to the proposed mine project. The proposed project area would be visible, especially with the inclusion of the 300 ft. high wasterock stockpile and leach heap, for several miles in both directions along Indian Pass Road and particularly from the hill to the west of the proposed project site where the applicant proposes realignment of the Indian Pass Road. It is this Indian Pass Road that visitors take to reach the Indian Pass ACEC and to nearby wilderness areas. This road also goes to Picacho State Park along the Colorado River. The BLM Handbook includes the following text which was apparently ignored in preparation of the Imperial Project Draft EIS/EIR.

391 377. C. Select Key Observation Points (K0P's). The contrast rating is done from the most critical viewpoints. This is usually along commonly traveled routes or at other likely observation points. Factors that should be considered in selecting K0Ps are: angle of observation, number of viewers, length of time the project is in view, relative project size, season of use, and light conditions... (BLM Handbook H-8431-1, II. C.)

392 378. The Draft EIS/EIR at p. 3-97 states that the project process areas are partially visible from portions of the Indian Pass Road, and then proceeds to select a K0P at a location approximately two miles to the southwest of the process area and mine. The rationale for this choice was that there is an existing informal overnight camping area adjacent to the Indian Pass Road. We wish to point out that there is also an existing informal disturbed camping area almost immediately adjacent to the project site near the place where the realigned Indian Pass Road would return to the existing road, and another existing campsite at the base of the hill along which the road would be realigned and situated where the West Pit is proposed. Why wasn't the existing campsite to the north of the proposed mine project selected as a K0P? We have

observed that this camping area is frequently used and recommend its inclusion as a KOP. Using this camping ground to the north of the mine project as a KOP, and looking toward the proposed open pit mine and wasterock stockpiles, the view would be dominated by wasterock stockpiles and clouds of fugitive dust from the dumping of the waste rock on the stockpile or ore on the leach heap. (The campsite most frequently used by Sierra Club members is the one at the base of the hill proposed for realignment of the Indian Pass Road.)

393 379. The Final EIR/EA for the proposed VCR Mining Project at the Mesquite mine includes mine sites where key observation points (K0Ps) for visual analysis. Of these, it appears that all but two are within one mile of the the existing processing or mining area or the proposed mining area. (See VCR Mining Project figure 5.1.) (Our Exhibit LL-98.) VCR figures 5.6,5.7,5.8, 5.9, and 5.10 show massive visual impacts of the proposed project waste rock piles and leach piles from the road. Because the proposed Imperial Project would be adjacent to and on top of existing Indian Pass Road, with a proposal for realignment of the Indian Pass Road to a location to the west of and immediately adjacent to the proposed open pit and the ultimate waste rock pile, it is imperative that additional KOPs be analyzed for the Imperial Project at locations of comparable closeness to those used for the VCR visual analysis. Why does BLM ECRA allow such widely different standards for visual analysis for proposed open pit mines at 2 sites within 10 miles of each other? Because the major recreation route, the Indian Pass Road, would be so heavily impacted by the proposed mine project new K0Ps must be chosen at the perimeters of the mine site where the proposed Project intersects the Indian Pass Road, at the western most place where route realignment begins, and on top of the ridge where the road would be realigned. These sites must be chosen for visual analysis, because these are indeed the places where the public will view the mine operations. To select sites further away for visual analysis misleads the public and decisionmakers by making it appear that the only public views of the proposed mine would be from much greater distance than what would be seen by those traveling along the Indian Pass Road to Indian Pass and beyond.

394 380. The BLM Handbook Manual provides a list of criteria for rating the degree of contrast when evaluating visual resources. If meaningful K0Ps were selected for evaluating the visual impacts on Indian Pass Road in the vicinity of the north campsite or along the area of the proposed realignment of Indian Pass Road, there is no doubt that the degree of contrast would be rated as "strong". The BLM Manual defines the criteria for "strong" as: "the element of contrast demands attention, will not be overlooked, and is dominant in the landscape." (BLM Handbook H-8430I-1. III. D.2.a.)

SECTION 4.1.7.2. VISUAL IMPACTS OF THE PROPOSED ACTION

395 381. Nighttime lighting, reduction in the visibility resulting from increased particulate matter, including fugitive dust generated by truck travel, blasting, loading and unloading of ore and waste rock, and the visual contrast presented by the existence of sparsely vegetative lighter colored waste rock stockpiles and leach heap would remain significant and unmitigable. The described recontouring and rough grading would not significantly soften the visual contrast with the surrounding areas, nor would scattered small size vegetation, contrary to the assertions of the Draft EIS/EIR.

396 382. Statements about the level of impacts to visual resources depending upon the number of viewers to the project grossly underestimates the number of visitors using the Indian Pass Road, particularly on weekends, and especially on holiday weekends. Indeed, the Draft EIS/EIR at p. 3-104,3-105 states that: "The Indian Pass Recreation Corridor is considered an undeveloped, high use, recreation corridor." At Section 3.9.2.3 the following discussion of recreational use of the Indian Pass recreation corridor is provided:

" The Indian Pass recreation corridor also provides informal overnight vehicle camping, especially in the microphyll woodland areas. People are attracted to the microphyll woodland areas because of the vegetation, hiking is easy in the washes, and the vegetation often attracts wildlife. Rock hounding is another popular recreational use in the area. During hunting season, the area is used by many hunters looking for deer, quail and mourning doves. Some people use the area for geology, natural history, and archeology classes. (Draft EIS/EIR at p. 3-105.)

397383. This description in the discussion of recreation resources is a sharp contrast to the discussion of visitor uses in the visual resource section.

398384. Were those who prepared the K0P analysis familiar with the Indian Pass Road area and its recreational use on weekends, or was their experience strictly limited to weekday hours? One does not have to be a Quechan Tribal member to understand that the proposed waste rock stockpiles and leach heap would represent very significant visual impacts and barriers for visual travel along sacred trails. Similarly, long-term visual impacts would remain for all recreational users of the area and would not be alone dated by any of the proposed mitigation measures.

SECTION 4.1.7.3. MITIGATION RELATED TO VISUAL IMPACTS

399 385. Proposed mitigation measures are insufficient to mitigate the long-term visual impacts or to mitigate the impacts on the Quechan religion and culture. Accordingly, as noted in Section 4.1.7.4. the visual impacts are significant and unmitigable. Furthermore, because BLM ignored its own Handbook Manual, the visual resource portions of the Draft EIS/EIR must be redone and included in a Revised Draft EIS/EIR.

400386. Nevertheless, the Draft EIS/EIR Section 4.4.6.1. "Impacts of the complete backfill alternative" on cultural resources states that:

> The Complete Pit Backfill Alternative would result in impacts on cultural resources which are identical to those created by the Proposed Action (see Section 4.1.6.2), except that following backfilling of the East Pit and final reclamation, the visual intrusion into the Indian Pass-Running Man ATCC would be somewhat reduced. The Complete Pit Backfill Alternative would still have a significant adverse impact on cultural resources eligible for the NRHP, and on the Indian Pass-Running Man ATCC. (Draft EIS/EIR at p. 4-149.)

401387. Thus, it is obvious that any mining, or open pit mining at the proposed project site would have serious adverse impacts on both visual resources and cultural resources. Indeed the Draft EIS/EIR at p. 4-150 states that: "Because the heap would remain as a large alteration in the topography, the effect of the Complete Pit cap backfilled Alternative on visual resources would be above the level of significance." Indeed, neither the impact on cultural resources nor visual resources would be altered by mitigation in the impacts on both resource values would remain above the level of significance and be Unavoidable if open pit mining is allowed, even with complete backfilling of all pits. (Draft EIS/EIR and at pp. 4-150,4-151.)

SECTION 3.8. NOISE

402388. The ambient noise level in the project area vicinity was assumed to be between 35 and 50 dB, except as modified by noise generating activities in the project area and vicinity along Indian Pass Road. (Draft EIS/EIR at p. 3-99.) This background noise level is unrealistically high for a quiet and isolated desert area. In the Grand Canyon, also a quiet desert area, the background noise level has been measured at

15-17 dB (EA "Special Flight Rules in the Vicinity of Grand Canyon National Park" at figure 3-2.). (Exhibit UU-98.) The vast majority of the Grand Canyon National Park appears to have the ambient noise level in the range of 15 to 17 dB as disclosed in the EA, FAA Figure 3-to "Ambient Noise in Grand Canyon National Park." This is a small fraction of the noise level assumed for the proposed project area on Indian Pass Road. Such a significant difference in noise levels means that ambient noise levels should have been measured rather than assumed. The equipment is available, and has been used to measure ambient noise levels in National Parks in the southwest. The military aircraft overflights and military aircraft maneuvers over the Indian Pass Road area are either so infrequent or at such high elevation that is possible to spend many days camping in the disturbed camping ground on the proposed site of the West Pit without ever hearing any military aircraft. Similarly, during weekday visits to the proposed project site, there were seldom if any other recreational vehicles or OHV use in the vicinity of the proposed project. Dominant ambient noise levels seem to be related to natural sources such as wind, rain and wildlife and during our members' solitary visits to the project site.

403 389. The color version of EA FAA Fig. 3-2 reveals that the vast majority of the Grand Canyon National Park has ambient sound levels in the range of 15 to 17 dB, a level clearly below what was estimated for the even quieter area along Indian Pass Road.If the proposed project is not withdrawn, it is imperative that actual sound surveys be performed in the area of the proposed mine site along the Indian Pass Road area, rather than merely using estimates that appear unrelated to anything else.

404 390. The FAA also acknowledges the characteristics of a quiet natural area. Section 3.5.2 "Noise Environment" for "Environmental Assessment Special Flight Rules in the Vicinity of Grand Canyon National Park" (EA, FAA) includes the following statements:

> Ambient noise has been described as continuous background sound environment (such as waves breaking on the sure, or a distant waterfall, or absolute silence in the absence of any wind or sounds from other sources). The ambient environment establishes the quieter moments in a setting and can mask intermittent sources (such as aircraft under some conditions). However, even in loud ambient settings, such as near waterfalls, distant sounds such as aircraft can sometimes be clearly audible.
>
> The range in ambient sound levels, even from indigenous sources, can vary considerably from one location to another, or time to time at any given location. At one end of the spectrum is the sound level at the base of a powerful waterfall. At the other end of the spectrum is the near absence of any perceptible sound of all. These latter conditions may be found in areas devoid of floor or fauna. In the middle is an array of sound conditions which vary from moment to moment, hour to hour. During non-inclement whether conditions, these variations result from three factors in natural environments:
>
> Wind (its interaction with foliage, irregular terrain, or the human ear)
> Water (movement in streams, falls, or wave action)
> Animal (near continuous, such as insect; or intermittent, such as birds, coyotes, etc.)
>
> The NPS measured ambient sound levels during the summer and fall of 1992.. The range of ambient sound levels measured for select areas of GCNP is shown in Table 3.2. The ambiance sound levels are shown in Figure 3-2. (EA, FAA at p. 3-11.)

405 391. All of the EIS/EIR/EA documents related to operations at the American Girl mining site in the Cargo Muchacho mountains described background noise in the project vicinity as follows: "Natural sources of noise included wind, rain, thunder, insects, birds. and other wildlife. Available data indicate

that noise levels in natural environments such as a Project area may range from 15 to 45 dB(A), depending on the noise source." (Final EIS Oro Cruz Operation of American Girl mining project at p. 140.) Almost identical sentences are included in each of be environmental documents related to other proposed project at that site. This information has been included in documents related to the American Girl mining the area. including Padre Madre(1987 POO for Phase II expansion at p. 46(7/87) and 51 (8/87)), American Girl(11/88 F EA/EIS at 4-21), and American Boy (3/92 at 5-6) operations for almost a decade. Why does the Imperial Project in 1997 use estimates of noise in an even quieter location, and report an assumed noise level so much higher?

406 392. The text of the Oro Cruz EIS includes the following information on sound propagation which is relevant and should be included in the revised documents for the proposed Imperial Project because it helps those who are not experts understand the significance of different dB levels of noise.

> Sound level is typically measured in units of A-weighted decibels (dB(A)) using a logarithmic scale which is "frequency-weighted" to the sounds within allowable range. A 10 dB(A) increase in sound is approximately equal to a doubling in the human perception of loudness. A 5 dB(A) increase in average sound is considered to be clearly perceptible, and an impact to noise-sensitive Properties (Harris, 1991). (Oro Cruz Final EIS at p. 139.)

407 393. ""Sound" is referred to and regulated as "noise" (any disagreeable or undesired sound). Noise measurements are typically averaged over time to account for fluctuations in noise level." (Oro Cruz Final EIS at p. 139.) Additional discussion of noise levels and the importance of different noise levels at different times of day should be included in that EIS. No similar explanation of noise or its importance is included in the proposed Imperial Project EIS/EIR. This background information should be included for the benefit of the public and decisionmakers. Why wasn't it?

SECTION 4.1.8. NOISE IMPACTS

408 394. Because the background noise levels are much lower than assumed in the Draft EIS/EIR (Hingson, 1997 personal communication), the contrast of project associated noises to background ambient noise levels is much greater than assumed in discussion of environmental effects. Not only will project noise levels impact human receptors, they will also have a profound impact on wildlife currently using the project area. It is inappropriate to assume that there is an absence of sensitive noise receptors in the vicinity of the proposed project area as does the Draft EIS/EIR at p. 4-103. Noise is both subjective and objective; hence the need for technical data to support any statements about "noise". Impacts of noise on small wildlife should be included. This was noted in our 1997 comments. Why was there no Technical Appendix prepared for noise impacts?

SECTION 3.9. LAND USE

409 395. Why Doesn't Section 3.9.2 include a listing of the use of the project vicinity for religious and cultural purposes by the Quechan Indian Nation? Elsewhere, the Draft EIS/EIR at p. 3-104,3-105 states that: " The Indian Pass Recreation corridor is considered an undeveloped, high use, recreation corridor." At Section 3.9.2.3 the following discussion of recreational use of the Indian Pass recreation corridor is provided:

> The Indian Pass Recreation quarter also provides informal overnight vehicle camping, especially in the microphyll woodland areas. People are attracted into the microphyll woodland areas because of the vegetation, hiking is easy in the washes, and the vegetation often attracts wildlife.

Rock hounding is another popular recreational use in the area. During hunting season, the area is used by many hunters looking for deer, quail and mourning doves. Some people use the area for geology, natural history, archeology classes. (Draft EIS/EIR at p. 3-105.)

The description in the discussion of recreation resources is a sharp contrast to the discussion of visitor uses in the visual resource section.

SECTION 4.1.9. LAND USE

410 396. As noted in our earlier discussion, the Draft EIS/EIR in Section 4.1.9.2 (impacts of the proposed land uses, compatibility with adopted land-use plans and policies), misrepresents and inaccurately portrays the text of FLPMA Section 103 and 601. It reflects poorly on both BLM and Imperial County to so consistently omit important text from cited Federal adopted policies and Federal management plans. A revised Draft EIS/EIR must correctly include the full text of cited sections of FLPMA Section 102, Section 103, and Section 601 in its discussion of "compatibility with adopted land-use plans of policies" at p. 4-105. Only then can the concerned public and decision-makers fully understand the Congressional and BLM intent in adopting FLPMA and the CDCA Plan. The omitted text and discussion related to this issue is included elsewhere these comments.

411 397. The Draft EIS/EIR at p. 4-105 states that the County has zoned the entire area of the proposed action as Open Space, which permits multiple uses... What is the purpose of including this statement in discussion of compatibility with adopted land-use plans and policies when Section 3.9.1 pointed out that: "As Imperial County has no direct land use jurisdiction over public lands, neither the General Plan nor the Imperial County zoning regulations are directly applicable to activities proposed on public lands." (Draft EIS/EIR at p. 3-100.)?

412 398. The text of the Draft EIS/EIR at p. 4-106 misrepresents the text of Section 103(d) of the California Desert Protection Act of 1994. As included in the Draft EIS/EIR, nothing in the text of Section 103 (d) states that it is inappropriate to consider the indirect effects of a proposed action on a wilderness area, its characteristics and/or its values to the public. It is our understanding that it is always appropriate to consider indirect impacts of a proposed project whether they are in designated Wilderness or non-wilderness areas and on other resource values.

IMPACTS OF PROPOSED PROJECT ON RECREATIONAL RESOURCES

413 399. The Draft EIS/EIR at page 4-107 states that upon completion of final reclamation, "opportunities for hunting, hiking, camping and other dispersed recreational activities would again be available in the Project mine and process area (with the exception of the 198-acre open East Pit)." We are amazed every time we see such statements. We were amazed when we heard Steve Baumann state that even the open pit at the Picacho Mine would be used for recreational purposes after closure of the mine. At what other open pit mines in Southern California, or anywhere else in the southwestern deserts have abandoned waste rock piles and leach heaps or tailings or open pits been used for recreational purposes after closure of mining operations and completion of reclamation? Have abandoned mining operations elsewhere in Imperial County provided opportunities for widespread recreational activity? If so, what types of recreation are occurring at these open pit mines? What use data are available?

414 400. Text at page 4-107 correctly states that not only recreational opportunities would be lost, but also educational opportunities would be lost because cultural resources would either be inaccessible or permanently lost. The text also states that users of the Picacho Peak Wilderness Area and Indian Pass

Wilderness Area closest to the mine project would be adversely impacted because of the noise, the light, and views of the proposed project. "People who go into wilderness areas such as these usually go there because of the solitude in the lack of human-related distractions. Noise and lights, especially at night from the project mine and process area would likely reduce the use of these wilderness areas by people seeking the solitude." (Draft EIS/EIR at p. 4-107.) Why does the Draft EIS/EIR include discussion of indirect impacts of the proposed project mine and process area on wilderness recreation users, but omit similar discussion of impacts in the Wilderness section? This is inconsistent as well as inadequate.

415 401. After earlier describing the Indian Pass Road recreational corridor as being heavily used, discussion of recreational impacts of the proposed project notes that those camping along the Indian Pass Road would be most affected by project related noise and the loss of access to microphyll woodland habitat located within the mine and process area, microphyll woodland habitat which is now a well-used established campsite. It is our estimate that during the past year, more than 100 Sierra Club members have camped at this established campsite which would be overlying the proposed West Pit. Several of us have spent as much as a week at a time camping in this protected site in microphyll woodland at the base of the hill along which realignment of the Indian Pass Road is planned. This camping site is indeed unique in Imperial County, because it is easily accessible to 2-wheel drive passenger cars in an area of great solitude with spectacular and calming views. It is most unlikely that those who are using this camping area at present would ever return to camp atop a 300 ft. high waste rock pile overlooking a deep open pit. To assert that this area would be used for hiking, camping and hunting suggest that those who prepared this text have neither hunted, hiked nor camped along the Indian Pass Road area in eastern Imperial County, or perhaps anywhere else. To assert that the proposed open pit mine on top of the existing Indian Pass Road would have less than significant impacts on recreational use in the area (Draft EIS/EIR at p. 4-109) is simply unfounded.

SECTION 4.1.10.2. SOCIOECONOMIC IMPACTS OF THE PROPOSED PROJECT

416 402. Slightly more than one-third of the annual non-capital expenditures are estimated to be made in California, and "it is likely that more workers would eventually reside in Yuma, Arizona over locations in the Imperial County." (Draft EIS/EIR at pp. 4-110,4-111.) As noted on page 4-111 the proposed action would not be considered significant in terms of beneficial socioeconomic impacts to Imperial County. We believe that it is probable that the adverse economic losses related to excluding the present non-mining recreational uses along Indian Pass Road will out-weigh and positive economic benefits. We have heard this concern discussed during a meeting of the Imperial County Fish and Game Commission.

SECTION 3.11. ROAD AND PUBLIC SERVICES

417 403. The Draft EIS/EIR states that:

> Both Indian Pass Road and Hyduke Road are being considered for inclusion in the BLM's National Backcountry Byways program. This program is the BLM's contribution to the larger National Scenic Byways program, which is intended to increase the awareness of scenic corridors that are "off the beaten path" (USDI no date). (Draft EIS/EIR Ed p. 3-109.)

How would approval of an open pit cyanide heap leach gold mine on top of and adjacent to the existing Indian Pass Road affect the status of designation as a Backcountry Byway? What is the status of open pit mining with respect to the National Scenic Byways program?

418 404. Why were there no traffic volume counts on Ogilby Road in the vicinity of Indian Pass Road? Why were there no traffic volume counts on the Indian Pass Road? It would seem that this is absolutely

essential information in terms of understanding the impact of the proposed mine project on roads and road use in the area. It has been almost seven years since the project applicant had a Reclamation Plan for exploratory drilling approved by the Imperial County Planning Commission in May of 1991. Seven years should have been enough time in which to prepare traffic volume counts on the Indian Pass Road and at the junction of Ogilby and Indian Pass Road. For what reasons did the BLM and County fail to require this information to be provided after noting that the Indian Pass Road recreational corridor was heavily used for recreational purposes, particularly during holidays and weekends?

419 405. A review of the various alternatives to the proposed project reveals that none are capable of reducing or mitigating the impacts to cultural and visual resources in any significant way. All alternatives are merely variations of the proposed project, and the proposed project has the most significant environmental impacts of all the alternatives.

CHAPTER 5. CUMULATIVE EFFECTS

420 406. The Draft EIS/EIR discussion of cumulative impacts is misleading, inaccurate, and inadequate. It fails to provide information about plans for expansion of the existing Mesquite Mine and the potential for expansion of the proposed Imperial Project. The potential for the expansion of the proposed Imperial Project is particularly significant, because this represents information which was known to both the project applicant and to the BLM and County, but withheld from public review in the Draft EIS/EIR. The potential for expansion was known because the project applicant has been and continues to pay annual assessment fees to maintain hundreds of open lode mining claims in the area surrounding the proposed Imperial Project on Indian Pass Road. As the Applicant's parent company told the Securities and Exchange Commission, Glamis Gold has "expanded its land position at the Imperial Project to 579 claims covering approximately 10,630 acres." (GGL 3/97 10-K/A at p. 38.) For the Imperial Project Draft EIS/EIR to serve its NEPA purpose as an objective informational document, it is imperative that this information about the number and extent of mining claims held as open by the parent company be revealed to the public and to decisionmakers.

SECTION 5.2.1. MINING USES

SECTION 5.2.1.2 MESQUITE MINE

421 407. Draft EIS/EIR discussion of this existing open pit cyanide heap-leach gold mine is inadequate, incorrect, and misleading. The text suggests that the mine anticipates closing within the next 9 to 14 years. However, the text fails to note the potential for expansion of the existing Mesquite Mine onto two half sections immediately adjacent to and north of lands controlled by the Mesquite Mine and located in what was a portion of the Chocolate Mountain Gunnery Range prior to passage of the California Desert Protection Act in 1994. In December 1997, Harmon received a telephone call from Chet Littledyke of the Mesquite Mine who extended an invitation to view the site of the proposed expansion of the Mesquite Mine. Information about the proposed expansion of the Mesquite Mine to encompass an additional 640 acres must be included in a revised Draft EIS/EIR.

POTENTIAL FOR EXPANSION OF PROPOSED IMPERIAL PROJECT MINE

422 408. Potential expansion of the proposed Imperial Project onto paid-up lode claims held by the project applicant in the valley and mountains surrounding Indian Pass Road must be discussed in the revised Draft EIS/EIR. A review of the microfiched copy of mining claims on file in the BLM ECRA Office reveals that

there are hundreds of paid-up lode mining claims currently held by Glamis Exploration, Steve Baumann, claimant. Since this is the same claimant as holds lode claims on the acreage that is the subject of the proposed Imperial Project, is it unreasonable to assume that the project applicant is paying the assessment fee on these claims in hopes/expectation of future expansion of the proposed open pit mine? All of the three existing open pit gold mines in Imperial County have expanded at least one time following approval of the initial full-scale open pit mining operations. Accordingly, it is only logical to assume that the project applicant in this case would also plan on submitting a Plan of Operations for expansion several years after initial approval is granted. If this were not the case, why does the project applicant continue paying the annual $100/lode claim assessment fee to keep each mining claim open? The annual filing fee for the 579 claims covering approximately 10,630 acres in would amount to $57,900 per year. If expansion were not being planned, then why is the project applicant continuing to file additional new mining claims within the past several years? By identifying the open and closed claims on a copy of a 1989 mining claims map included in the BLM mining claim case file for the Imperial Project, it is apparent that the project applicant holds open claims in all directions surrounding the proposed project site. It is also apparent that there are numerous other mining claimants who also hold open claims in the valley and mountains surrounding Indian Pass Road. Why were these data not discussed in the Draft EIS/EIR?

EXTENT OF MINING CLAIMS, POTENTIAL FOR EXPANSION AND COMPANY'S HISTORIC RECORD OF EXPANSION AT ITS NEARBY PICACHO MINE

423 409. "Chemgold Inc. has been the mine operator since the first experimental operation in 1977. Historically, the Project area has been mined and prospected for some hundred years. In the early 1900s, there was a town of some 2500 persons and 700 mine employees in the Picacho Basin. Access was via Colorado River." (Final EIR, Picacho Mine Expansion 5/82 at p. 2.) It is interesting to note that Table 1 of the 5/82 Picacho Final EIR (at p. 7) discusses not only the proposed expansion but future expansion and probable future extraction areas. This is in sharp contrast to the environmental review for the proposed Imperial Project, a project location which is surrounded by hundreds of paid-up mining claims in all directions held by the project applicant. The Draft EIS/EIR for the proposed Imperial Project contains no similar listing or discussion of potential or probable future expansions of the proposed project. Why does this new subsidiary of Glamis Gold submit a Draft EIS/EIR for public review which does not contain the forward looking information plans submitted by the sister company and original applicant (Chemgold) for its expansion of the Picacho Mine in 1982 or reveal the extent of its paid-up mining claims and asserted interest public lands in eastern Imperial County that was discussed in the Company's 3/98 10-K/A filing with the Securities Exchange Commission? (See Exhibit SS-98.)

424 410. The expansion is suggested in 1982 Draft EIR for the Picacho Mine Expansion is detailed in the 10/91 Final SEIR as detailed below. (Exhibit MM 98.)

425 411. Draft Environmental Impact Report for the proposed Chemgold Inc. Picacho Mine Dulcina Pit Phase Imperial County, CA, June, 1991, vol. 1 of 2. (Final SEIR, 10/91, Picacho Mine Vol. 1 of 2 at p. 2-1.) A review of this document reveals that a Conditional use Permit was issued in 1979 to produce 200,000 tons of gold-bearing or and to operate an experimental heap leach pile at the Picacho Mine. This was followed by proposal for expansion in 1981 an extension of the original CUP for additional 100,000 tons of ore while preparing for a new EIR. The EIR for the expansion of the Picacho Mine was to process 6 million tons of ore and 3 million tons of overburden from the Dulcina pit. "EIR included designation of areas for future mining and processing." (Final SEIR, 10/91, Picacho Mine v. 1 of 2 at p. 2-1.)

426 412. In December 1982, a new CUP was issued to allow for excavation and processing of 29 million

tons of material. A third CUP was issued in October 1984 with a negative declaration. This CUP authorized construction of three new leach pads and production of 12.1 million tons of material from the pits. (Final SEIR, 10/91, Picacho Mine v. 1 of 2 at p. 2-1, 2-2.)

427 413. The fourth CUP in 1989, again with a negative declaration, allowed construction of Fourth leach pad an additional production of 22.4 million tons of ore at overburden.(Final SEIR, 10/91, Picacho Mine v. 1 of 2 at p. 2-2.)

428 414. Chemgold had a plan of operations approved by BLM in 3/91 to develop a fifth leach pad on public lands.(Final SEIR, 10/91, Picacho Mine v. 1 of 2 at p. 2-2.)

429 415. A sixth expansion is discussed in the Final SEIR of 10/91 the proposed increase for mining of 10 million tons to be mined from the existing Dulcina pit with an expansion of 25.1 million tons and construction of additional heap leach operation at Site 5 . Final SEIR, 6/91, Picacho Mine v. 1 of 2 at p. 1-1, 1 -2 .)

430 416. Thus. based on the information in the documents prepared for the sixth expansion of the Picacho within a 12 Year period it is obvious that the method of operation used by Chemgold, the original project applicant for the Imperial Project and now the sister company to the newly created Glamis Imperial Corp., was to start cyanide heap leach mining operations with a fairly small project and then keep expanding every few years. Is this the pattern to be expected at the proposed Imperial Project where the project applicant holds 579 paid-up mining claims surrounding the proposed project site in all directions? If not, then why does the applicant continue to pay to keep mining claims open? Surely, the information about the number and location of paid-up mining claims and the types of operations engaged in at Chemgold's nearby Picacho Mine should raise serious questions in the minds of both the public and the decisionmakers.

INFORMATION BETTER REVEALED FOR OTHER PROJECTS: IMPORTANT FOR UNDERSTANDING POTENTIAL IMPACTS OF FUTURE EXPANSIONS

431 417. The American Girl Final EA/EIR Fig. 3 entitled "Claims boundaries and property ownership within the study area" is important because depicts location and identity of some of the mining claims both within the proposed mine project area and extending beyond the boundaries of the Project area. Such a figure should have been included for the proposed Imperial Project. If such a figure had been included in the EIS/EIR for the Imperial Project it would have revealed that the project applicant had what appear to be hundreds of paid-up mining claims surrounding the proposed project site in all directions. It would also have revealed that in the vicinity of the proposed Imperial Project there are scores of other paid-up mining claims held by other individuals and other mining companies. This information is essential for decisionmakers and concerned members of the public to understand the potential for expansion of the proposed project site. Because each of the other cyanide heap leach open pit gold mines in southeastern Imperial County has expanded at least one time, it is imperative for decisionmakers to understand the number and location of paid-up mining claims held by the project applicant which may represent the Applicant's desire for future expansion of mining operations. The location of paid-up mining claims in the project vicinity is essential to understanding the potential cumulative impacts of the proposed project in foreseeable future and for understanding the potential growth inducing impacts of permitting the proposed mine operation. We have prepared such a map and is included as Exhibit KK-98.

432 418. The American Girl Final EA/EIR Fig. 4 depicts the location of "Surface and underground ore

bodies to be mined within the American Girl Canyon Permit area". This figure is important because it depicts the location of ore bodies on a topographic map showing surface elevation and reveals to the public and decisionmakers the approximate location of the ore bodies within the proposed project site. We found no similar figure in the Draft EIS/EIR for the proposed Imperial Project. Such a figure should be included. A similar figure for the proposed Imperial project would be useful in helping the public to understand the potential for underground mining at the proposed site.

433 419. Failure of the Draft EIS/EIR to include discussion of the proposed expansion of the Mesquite Mine and the potential for expansion of the proposed Imperial Project onto mining claims held by the project applicant renders the discussion of Cumulative Impacts inadequate under both CEQA and NEPA. Therefore, the Cumulative Impacts Section must be rewritten to include a more realistic view of the anticipated expansion of existing and proposed open pit mine projects within the proposed project vicinity. This additional discussion should include figures depicting the location of the Applicant's open mining claims encompassing the area shown on the claims map in the BLM ECRA mining claims case file for the Imperial Project.

SECTION 5.2.2.3. AGRICULTURAL PROJECTS AND
SECTION 5.2.3. WATER CONSERVATION PROJECTS

434 420. How do the area's water-related projects affect the groundwater basin and relate to the cumulative impacts of groundwater pumping for the proposed project? How, if at all, will proposed transfer of Colorado River water to the San Diego County Water Authority or to the Metropolitan Water District affect the lining, recovery, and recharge test programs? How will these proposed water transfers affect the availability of groundwater in the Ogilby Basin? How has increased pumpage of seepage (on the Mexican side of the border) of Colorado River water from the All American Canal changed gradient of flow and reduced the amount of infiltration into the Amos-Ogilby basin from which the proposed mine intends to pump groundwater? Where is a discussion of the anticipated future changes in groundwater gradient and quantities in storage available to pumpage in view of the increased groundwater used on the Mexican cited international border? Has there been any long-term monitoring of groundwater levels and groundwater quality within the Amos-Ogilby basin?

435 421. For purposes of the proposed project it is inappropriate to look at basinwide effects and include the East Mesa portion of the groundwater basin in terms of available groundwater storage. Additional text should be prepared that discusses the cumulative impacts on the Ogilby sub-basin.

436 422. Because the cumulative impacts discussion ignores the potential for proposed expansion of the existing Mesquite Mine and potential expansion if the Imperial Project were to be approved, discussion of the cumulative impacts of the proposed project -- coupled with the additional groundwater and air resource impacts -- is inadequate. Even without these additional potential cumulative impacts, the Draft EIS/EIR notes that there would be a cumulatively significant effect on the air resources if the proposed mine were to be approved.

437 423. Montgomery Watson states that:
Lining the All-American Canal from Pilot Hill, and to Drop No. 4 would reduce groundwater outflow to Mexico and lower groundwater levels in the vicinity of the Canal. Models studies indicate average annual outflow to Mexico under baseline conditions is 43,600 acre-feet/year compared to 22,750 acre-feet/year under conditions of a lined Canal. Groundwater levels, as shown in Figure 7-4, in the vicinity of the Canal would drop about 25 feet once levels stabilize

after Canal lining is completed. Groundwater flow directions would not change; however, gradient from the Canal to Mexico would be flattened. Outflow to the Salton Sea would be unchanged. (Montgomery Watson, 1995, at p. 7-7.)

A series of figures in that study all depict groundwater gradient as higher in the vicinity of the All-American Canal than at the Salton Sea.

438 424. The All-American Canal crossing southern Imperial County near the Mexican border from the Colorado River was constructed in the 1930's by the Bureau of Reclamation and began delivering water in the 1940s. "The unlined canal was constructed in sandy desert soils. Its width varies from 196 to 172 feet" in the section proposed for mining to conserve water. The canal supplies more than 3 million acre-feet of water from the Colorado River to Imperial and Coachella Valleys. (Final EIS/EIR All-American Canal Lining Project, Imperial County, CA, 3/94 at pp. S-1-2.)

439 425. A large ground-water aquifer, known locally as the Colorado River Aquifer, lies under the canal. This aquifer extends north under the East Mesa of the Imperial Valley and south across the international boundary with Mexico under the Mexicali Valley. This seepage through the unlined canal bottom has raised the ground-water level under the canal as much as 40 feet. There has been extensive pumping from the wells in Mexico since the 1950s. Since that time, the ground-water gradient is to the south, which causes most of the seepage to flow under the international boundary into the Mexicali Valley of Mexico where seepage augment the local groundwater pumped from wells for irrigation. (Final EIS/EIR All-American Canal Lining Project at p. S-2,3.)

The preferred alternative [for canal lining] would reduce seepage from the canal by approximately 67,700 acre-feet per year. This would allow the ground-water level under the canal upstream from Drop 3 to decline and would reduce one source of ground-water recharge for the Mexicali Valley. Seepage from the All-American Canal contributes 10 to 12 percent of the Mexicali Valley ground-water recharge. If pumping in Mexico continues at the current rate, it would cause the groundwater under the canal to decline to a greater depth than prior to operation of the canal and would ultimately withdraw water from under the East Mesa of Imperial County. The ground-water table under part of the northeastern portion of the Mexicali Valley would decline. (Final EIS/EIR All-American Canal Lining Project at p.S-5.)

440 426. Since the time that the All-American canal began delivering Colorado River water, observation well measurements show that the water table was 40 to 80 feet below the level of the bottom of the canal. Between Pilot Knob and Drop 2 near the Sand Dunes, the water table is high but is:

> generally not hydraulicly connected to the canal. Although seepage there is great, ground-water flow to the south prevents the seepage mound (or ridge) from rising to the canal. Discharge of seepage water occurs by subsurface drainage south toward Mexico (about 90 percent) and north toward the East Mesa KOP about 2 and percent), and by negligible evapotranspiration." (Final EIS/EIR All-American Canal Lining Project at p. III-3.)

441 427. A 3/9/98 telephone conversation Ron Hull of the IID suggests that although there is presently no schedule for lining of the canal, a proposal has been received from MWD, but rejected. It is probable that after final completion of a water transfer agreement with the San Diego County Water Authority that the next serious consideration would be financing for lining of the All-American Canal. Because concrete lining of the All-American Canal would have an impact on the water table and on the Mexican side of the International Border, no actions will take place until a final decision is made by the International Boundary & Water Commission.

442 428. Hull believes that a cheaper alternative to recover seepage water would be installation of the well field as described in the final EIS/EIR for the All-American Canal Lining Project.

443 429. In any event, attempts to reduce seepage from the All-American Canal would result in the potential reduction of Colorado River infiltration into the Ogilby Basin by a quantity somewhat less than 67,700 acre-feet per year. (Final EIS/EIR All-American Canal Lining Project at p. S-5.) From discussions with staff at Imperial Irrigation District, it is not unreasonable to assume that there could be a reduction in Colorado River seepage water from the All-American canal available to recharge the Ogilby Basin. Thus, the potential for the Imperial Project to withdraw groundwater in the amount of 1,200 acre-ft./year should be considered as a cumulative impact on the groundwater resources of the Ogilby Basin in addition to the reduction in recharge which would result from either lining the All-American Canal or the installation of a well field in the proximity of the All-American Canal. EIS discussion of cumulative impacts must be corrected to reflect this information.

SECTION 5.3.4 CULTURAL RESOURCES

444 430. Chemgold's previous DEIR attempts to minimize archeological resources and their significance represects cultural insensitivity.

445 431. As a historic perspective related to activities of the applicant's sister company, Chemgold, we submit the following information related to Chemgold's nearby Picacho Mine. Chemgold 10/91 Final SEIR vol. 2 of 2 Appendix C, Cultural Resources with its sub Appendix C includes the full text of a book by Peter Odens entitled Picacho: Life and Death of a Great Gold Mining Camp. This book describes mining operations that had their origins in the vicinity of the present Picacho Mine in the mid-1800s. By the turn-of-the-century there was a well-established town with a 1904 population of 2,500 associated with mining at Picacho. (Chemgold's 10/91 Final SEIR Appendix A, Appendix C at pp. 8,9.) So, even if the Picacho Mine site was located on lands designated by BLM as Class L (Limited Use) it is quite obvious that the Picacho Mine site had an intensity of use with residual impacts in the project vicinity which far exceeded the types of impacts left by the peoples using the proposed Imperial site as evidenced by the archeological record. It is precisely because the archeological record is so extensive (10,000 years), so fragile, and requires extensive studying dispersed sites in place, and because the archeological evidence at the proposed Imperial site affords the better understanding of human adaptation to harsh environments and the relationship between archeological evidence and culture and religion (von Werlhoff, 12/16/97 at BLM Consultation), a mere interpretative accounting similar to that of Odens book is not possible at this time, and even if it were, it would be inadequate to afford an understanding of past human use a the area vicinity of the Imperial Project. Thus, although both the Picacho Mine site and the proposed Imperial Project site have had previous human use for extended period of time, the mining associated uses in the Picacho vicinity are qualitativly and quantitatively different and also easier to understand than the prehistoric and historic uses as evidenced by the archeological record and Quechan oral traditions centered at the proposed Imperial Project site on Indian Pass Road.

446 432. The 5/82 Final EIR for the Picacho Mine expansion states that there are no recorded archeological sites on the property or in the immediate vicinity and references a 1981 document. "There are recorded sites within a radius of three miles. A pamphlet describing the Picacho State Recreation Area notes that the myths and legends of the Quechan Indians, who lived along this part of the Colorado River in historical times, "tend to center around Picacho Peak" (California Department of Parks and Recreation, 1977)." (5/82 Final EIR for the Picacho Mine Expansion at p. 32.) After including this information, the final EIR states that "No archeological impact is anticipated." (5/82 Final EIR for the Picacho Mine Expansion at p.

33.) This conclusion was apparently based on the statement from the Imperial Valley College Museum dated 7/21/81 which states that the area had previously been surveyed and archeological survey was not recommended at that time. That museum letter also noted that the project location was on undisturbed land and is on public property. It concluded by stating that: "If, however, in the course of development archeological/paleontological resources are discovered, a qualified archeologist should be consulted prior to any archeological material being removed or disturbed." This same statement is included as a mitigation measure for cultural resources on the 5/82 Final EIR for the Picacho Mine Expansion at p. 35. Until we are able to review the 1984 expansion documents it will not be possible to ascertain whether destruction of the trail with its spirit break occurred before or after the 1984 archeological site record, nor learn how it was presented in the FEIR for that expansion.

447 433. The information in Chemgold's 10/91 Final SEIR Technical Appendix C to at pp. 11-12 does not include discussion of the trail system with the spirit break as described on the 7/84 archeological site record for site 4-IMP-5159 included in sub Appendix A. The site record includes a description and a map depicting the forked Y trail with a spirit break 0.50 meters from the intersection. (Exhibit NN 98.)Pages 2-3 of the archeological site record includes the following discussion: " Trail continues onto the SW, but has been totally impacted by a mining operation (Chem-gold) that is operating in this area. Trail also continues on to the Northeast but was not followed as it was out of the Project area. The proposed road was moved 40 meters to the south so as to avoid the intersection of the trails, and the spirit break." (7/84 archeological site record for 4-IMP-5159 at pp. 2-3 included as an exhibit in the Cultural Resources Inventory, Appendix see, of the 10/91 for the Picacho Mine. See our Exhibit NN 98.) It is troubling that this archeological site record is included in a sub Appendix but not listed in the report of findings or archeological resources observed and listed in the cultural Appendix itself at pp. 11-15. Including this information in the sub Appendix points out the presence of important cultural resources in the area, the destruction of such cultural resources which is attributed to the project applicant, but than the failure to include such information in the text which is more likely to be read the decisionmakers. This omission carries through to the Final SEIR itself rather than just the Technical Appendix and is not discussed in the text of the SEIR at Section 4.8 cultural resources. To us this suggests an attempt by the project applicant or by those preparing the environmental review documents for the project applicant's proposed project to minimize the significance of documented archeological resource sites which could or would be impacted by the proposed project and past impacts to archeological resources (trails) in the project vicinity by the company's actions. (See Exhibit NN 98. SEIR Appendix C, sub-appendix site survey at p.2.)

448 434. The assertions of the applicant for the proposed Imperial Project that impacts to archeological resources and sacred sites would be minimized by saving some trail segments and cleared circles in the midst of open pits waste rock and leach pile suggests a continued insensitivity to the significance of cultural resources and their significance to Quechan religion and culture.

449 435. Cumulative impacts discussion related to cultural resources concluded that:
Archeological recordation of such [cultural resources as geoglyphs, intaglios, petroglyphs, rock rings, trails, or trail shrines] features is rarely adequate to document their loss, and archeological methods have not been developed that adequately place many of these types of cultural features in a cultural context that permits their informational and historic values to be recovered. Additionally, the data in Table 5.1 support the perspective of the Quechan that recent projects have resulted in significant cumulative effects upon sites of high value to their contemporary heritage and future cultural survival. Thus, implementation of the Project, taken together with past, current, and reasonably foreseeable future projects would contribute to the already significant cumulative effects to cultural resources. (Draft EIS/EIR at page 5-17.)

450 436. As the Quechan have queried, "when is enough, enough?" They insist that the time has arrived for an end to the destruction of important cultural and religious resources.

SECTION 6.1. RELATIONSHIP BETWEEN LOCAL SHORT-TERM USE OF THE ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

451 437. Once again, we disagree with the assessment that the mining process area would ultimately be returned to conditions of: "an approximate pre-Project status within the Project mine and process area" for generations to come, if ever. We disagree that "a majority of the previous land uses within the project area could be reestablished." (Draft EIS/EIR at p. 6-1.) Certainly, the area could not again be used as an archeological teaching area, an area to understand the relationship between archeological/cultural resources and religion and culture, or as an area important to Quechan cultural and religious beliefs and practices, an important wildlife or recreation area. These conclusions are well supported by the information in the technical appendix and cultural resources, in addition to oral testimony at public hearings (Exhibits OO-98 and PP-98) and letters.

SECTION 6.2. SIGNIFICANT IRREVERSIBLE AND IRRETRIEVABLE RESOURCE COMMITMENTS

452 438. Although the discussion notes that there would be irreversible damage to the visual character of the project area, it fails to include discussion of the irreversible and irretrievable destruction of cultural resources and religious values that are associated only with this particular place. Why? Without such discussion, the Section is inadequate to meet the requirements of NEPA and CEQA.

SECTION 6.3. GROWTH-INDUCING EFFECTS

453 439. The text fails to discuss the potential growth-inducing effect of the installation of groundwater well field, a groundwater delivery pipeline, and electrical transmission lines. The recent example at the Mesquite Mine should serve as an example of what can happen when additional infrastructure is placed in an area where serious environmental degradation is planned, such as associated with an open pit mine. Groundwater well field, pipeline from the well field to the open pit mine, and installation of electrical transmission facilities were among the important aspects of infrastructure which were cited as providing necessary support for the proposed Mesquite Regional Landfill adjacent to the existing Mesquite Mine. The original Conditional Use Permit placed restrictions on groundwater use too, but those restrictions were modified for the 100 year Mesquite Regional Landfill. A review of the text for the EIS/EIR for that regional landfill (Exhibit EE-98) reveals that the infrastructure put in place to support the open pit gold mine at Mesquite Mine was indeed growth-inducing.

454 440. The following discussion is taken from the Final EIS/EIR for the proposed Mesquite Regional Landfill adjacent to the proposed Mesquite Mine. In Section 1.1.4.1 "Applicant's Objectives" it states that one of the objectives is to "Utilize existing infrastructure (e.g., power lines and water supply system). (Mesquite Regional Landfill Final EIS/EIR at p. 1-6.) In Section 2.1.14 "Water Availability, Sanitation in Utilities", in the same document, it states that:

> The Applicant proposes to obtain water from the existing Mesquite Mine Well Field located approximately three miles to the south of the proposed site... Appropriate approvals would be obtained to draw water using the existing well field for Landfill construction and operations.

Initial calculations indicate that the combination of Mesquite Mine and Landfill water used would not exceed the existing maximum permitted annual well field withdrawal rate of 4,033 acre-fee per year. As shown in Figure 1-2, a water pipeline currently extends from the well field to the Mesquite Mine. An extension of that pipeline would be built to bring water to a 600,000-gallon storage tank located in the operations and maintenance facilities area near the intermodal.

....

Electrical power for the proposed landfill would be obtained from the existing IID 892-kV powerline and sub station at the Mesquite Mine (Figure 1-2). (Mesquite Regional Landfill Final EIS/EIR at p. 2-72.)

Earlier the document reviewing the landfill states that:

Electric power supply, constructed by Gold Fields [original operator of the Mesquite Mine] and then dedicated to the Imperial Irrigation District (IID) includ[es]:

-A 161/92-kilovolt (kV) tap substation, approximately six miles east of the Mesquite Mine, used to obtain power from previously existing 161-kV transmission mine owned and operated by the U.S. Department of Energy (USDOE).

-An approximately six-mile-long, 92-kV transmission line from the substation to the Mesquite Mine.

-A 92/13.2-kV substation located at the Mesquite Mine.

"A water supply system consisting of the three 2,500-gallon per minute (gpm) capacity Mesquite Mine water wells located approximately three miles south of the mine, and a pipeline to on-site storage tanks near the solution ponds and process facilities." (Mesquite Regional Landfill Final EIS/EIR at p. 1-8.) (Exhibit QQ-98.)

455 441. What, if any, assurances are there that the infrastructure sought for this proposed Imperial Project would not be similarly growth-inducing in an attempt to support additional industrial activities on or adjacent to the area disturbed for the proposed Imperial Project open pit mine? An even greater question remains as to whether any such assurances have any long-term meaning. They certainly didn't at the Mesquite Mine!

456 442. The installation of electrical line to service infrastructure for the proposed mine and the drilling of water wells with a reasonable wall the groundwater to attend their project may well open the area for development on other private in holdings within several miles of the proposed mine site just as did the installation electrical service to the microwave relay station several miles north of state Highway 98 in southwestern Imperial County. It is unlikely that there would have been any residential development money in holding to the southeast of Ocotillo if there had not been electrical service running adjacent to the state highway. The relatively inexpensive access to electrical service from already existing transmission lines open the way to development onto separate in holdings in section 16 than section 11. How could there be any assurances the running additional electrical service the proposed mine site would not increase the potential for development on the private in holdings in closest proximity to the proposed mine site?

457 CONCLUSIONS

Once again, for the reasons discussed in these comments and those submitted in response to the 11/96 Draft EIS/EIR (resubmitted as Exhibits 1 through 5), the Sierra Club, San Diego Chapter, the Mineral Policy Center, The Wilderness Society, and California Wilderness Coalition remain opposed to any approvals related to the proposed Imperial Project, an open-pit cyanide heap-leach gold mine on the Indian Pass Road. Accordingly we make the following recommendations that:

1. The project applicant withdraw the application and Draft EIS/EIR for the proposed open pit mining project on Indian Pass Road;

or if the Applicant fails to withdraw the proposal, the following NEPA/CEQA procedures be followed:

2. A Revised Draft EIS/EIR be prepared to correct the deficiencies found in the present document, its Reclamation Plan, and inadequate mitigation measures; and

3. A Revised Draft EIS/EIR be prepared and distributed for public review for the full comment period; and

4. The BLM withhold approval of/or deny the proposed plan of operations and other requested approvals, (approve the No Action Alternative) and

5. The County deny approval of the proposed Conditional Use Permit for water well or water wells as not being in the public interest, and

6. The County reject the proposed Reclamation Plan as being inadequate, and

7. The County not certify the Draft EIS/EIR as being prepared in conformance with CEQA.

Based on the archeological, cultural, religious, and visual resources which would have significant unmitigable impacts even after mitigation, and because the archeological, cultural and religious values are so extremely important in this area, we further affirmatively recommend that the area be immediately withdrawn from mineral entry and included in expansion of the nearby already designated Indian Pass Area of Critical Environmental Concern. Alternatively, we recommend that the area be withdrawal of the area from mineral entry and designated as a National Monument in order to protect and preserve for both present and future generations the archeological, cultural, and religious values of the area. By "area" we mean not only the proposed project site, but also a substantial area of land surrounding the proposed project site in all directions, an area whose boundaries would be recommended by archaeologists and members of the Quechan Indian Nation and its Cultural Committee.

Exhibits

1 Sierra Club's 2 11/97 comment letter on 11/96 Draft EIS/EIR for Chemgold's Imperial Project. (33 pages with Exhibits A through I.)

2 Sierra Club's 3 24/97 comment letter on 11/96 Draft EIS/EIR for Chemgold's Imperial Project. (16 pages without Exhibits K through Z and AA through KK which were submitted with the original 3/24/97 comment letter.)

3 Sierra Club 3/24/97 Exhibit J, Summary of Sierra Club issues following 2/13/97 BLM Public Hearing in La Mesa. (13 pages.)

4 2/14/97 fax of information re reclamation to BLM. Information was presented during public hearing. (3 pages.)

5 Sierra Club 3 24/97 fax to BLM ECRA re 43 CFR 3809.1-9 for financial guarantees to cover 100% of reclamation costs. Submitted as Exhibit MM.

A 98 43 CFR 3809 Surface Management Regulations from BLM. 1996. Location and patenting of Mining Claims and mill Sites in California.

B 98 Table 1. - Multiple-Use Class Guidelines #13 Mineral exploration and development in Multiple Use Class L, Limited Use. CDCA Plan p. 18.

C 98 IBLA decision re Peg Leg's Other Leg

D 98 Text related to "discovery" of "valuable minerals" in Leshy, John D. 1987. The Mining Law: a Study in Perpetual Motion. Resources for the Future, Inc., Washington D.C. pp 126-

~~E 98~~ United States of America v. United Mining Corp. 1994. ID1-29807.

F 98 Eric L. Price and James C Thomas 116 IBLA 210 (10/4/90).

G 98 Imperial County Planning Department Notification of Action by Planning Commission . 5/22/91. Approval of Reclamation Plan #149-91 for Imperial Gold Corporation from Canada.

H 98 High Country News. 1/19/98. "Summitville: An expensive lesson."

I-98 US Environmental Protection Agency. 9/95. Profile of the Metal Mining Industry. Office of Compliance, Office of Enforcement and Compliance Assurance, USEPA. Exhibit 20.

J 98 Imperial County Planning Department 2/14/91 letter to eight entities or departments accompanying Reclamation Plan 149-91.

K 98 Imperial County Planning Department "Filing of Notice of Determination" to CA Office of Planning and Research re Planning Commission approval of Reclamation Plan #149-91.

L 98 Chemgold 5/6/94 letter to County Planning Director requesting a "Minor Amendment" to Reclamation Plan #149-91.

M 98 cover page for Chemgold's 5/15/89 "excerpt from "Mineral Prospecting Application for State Lands, Indian Rose Project,Imperial County, California""

N 98 Imperial Gold Corporation's 11/17/92 two letters to BLM re "Proposed 1993 Exploration on the Indian Rose Project, GAV claims, Gavlin Wash area, Imperial County" (6 pages)

O 98 Chemgold, Inc.'s 4/14/94 "Plan of Operations, Imperial Gold Project Exploration Drilling and Reclamation Program" (19 pages).

P 98 Planning Dept. 7/26/94 letter to Chemgold approving "minor amendment to Reclamation Plan #149-91" to "add nine (9) new drill holes".

Q 98 BLM ECRA's Environmental Assessment Finding of No Significant Impact and Decision Record for EA # CA-067-EA94-039, Case File No. CA-34210. (11 pages)

R 98 Amendment to EA FONSI and DR re: EA # CA-067-EA94-039, Case File No. CA-34210 (2 pages).

S 98 BLM ECRA's Environmental Assessment Finding of No Significant Impact and Decision Record for EA # CA-067-EA95-016, Case File No. CA-34210. (5 pages)

T 98 BLM 4/11/96 letter to mike Jackson, Quechan Tribal Council President re preliminary Draft EIS for Chemgold's Imperial Project in Indian Pass. (2 pages)

U 98 Chemgold's 3/25/96 "1996 Addendum to Plan of Operations Imperial Gold Project Exploration Drilling and Reclamation Program" 3809 (C-067.25), amended 10/7/94. See 5/31/96 BLM decision which is appended. (9 pages).

V 98 Imperial Gold Corporation's 2/12/91 Reclamation Plan Application. (8 pages)

W 98 Glamis Gold Ltd. Ore Reserve Estimates at 12/31/96 form http://www.glamis.com/reset.html on 11/27/97. Proven reserves estimated at 0.016 oz./ton for proposed Imperial Project.

X 98 Sierra Club Conservation Committee statement requesting BLM to withhold approval of Chemgold's (now Glamis Imperial's) proposed Imperial Project on Indian Pass Road.

Y 98 Glamis Gold News Release for May 6, 1996. "Glamis announces major production expansion." from internet information.

Z 98 CDCA Plan, FEIS and Proposed Plan Appendix Vol D, Appendix VIII Part 3, Treaditional Native American Values.

AA98 "In an ancient outrage, Corporations get the gold--We get the shaft." 2/1/98 The Washington Spectator.

BB98 BLM. 6/94. South Coast Resource Management Plan and Record of Decision. Appendix C Areas of Critical Environmental Concern, n.b. Kuchamaa discussion. pp. 101-103.

CC98 BLM State Director. Instruction Memorandum No. CA-91-192. "Environmental documentation and other considerations for Surface mining Operations".

DD98 Anderson, J. Jan/Feb 98. "An unforgetable Thanksgiving at Indian Pass" Hi Sierran.

EE98 Mesquite Regional Landfill use of Mesquite Mine water and electriacal infrastructure, Final EIS/EIR Mesquite Regional Landfill. (4 pgs.)

FF98 Oro Cruz Final EIS pp. 32 (crushing ore), 35-38 (underground mining).

GG98 Soledad Mountain Project EIS/EIR V.2, Appendix II, p.8 (crushing ore), V 4, Appendix IV Table of contents

(Alternative sites discussion listed).

HH98 Castle Mountain Mine Expansion DEIS/EIR:2-4. FEIS/EIR:2-1 (crushing ore).

II98 Briggs Project FEIS/EIR Vol. II, p. 2-20. (crushing ore).

JJ98 Mesquite Project DEIR/EIS p. 3-9, 3-11 (crushing ore).

KK98 Indian Pass Road area mining claims map.

LL98 VCR Mining Project viewpoints for visual analysis and simulated views of the proposed mining operations.

MM 98 Final Supplemental Environmental Impact Report for the Proposed Chemgold Inc. Picacho Mine Dulcina Pit Phase 2, Imperial County, CA. Vol. 1 of 3. 10/91.

NN 98 Final Supplemental Environmental Impact Report for the Proposed Chemgold Inc. Picacho Mine Dulcina Pit Phase 2, Imperial County, CA. Vol. 2 of 3. Appendices A and C.

OO 98 Transcript of BLM Public Hearing on 11/96 DEIS/EIR at Holtville.

PP 98 Transcript of BLM Public Hearing on 11/96 DEIS/EIR at La Mesa.

QQ 98 Mesquite Regional Landfill text re infrastructure use as a justification for landfill.

RR 98 BLM Regs re Hardrock bonding/financial assurances rule.

SS 98 Summary of major issues related to Imperial Project in Glamis Gold Ltd. 3/98 10-K/A report to Securities and Exchange Commission.

TT 98 Obmascik, M. 12/42/92. "Bankrupt mine costly to EPA:Agency spends $800,000 a month to clean up cyanide wastes, EPA may run out of money to pay for gold mine cleanup." The Denver Post

VV 98 DEIS Technical Appendix L Figs. 1-4, 1-5.

WW 98 FAA Ambient Noise in Grand Canyon National Park.

XX 98 Sierra Club letter to BLM State Director re Instruction Memorandum.

YY 98 Declaration of Angelo Schunke in support of the appeal of Final Agency Action and included in with the Appellants Brief in Case No. 98-70033, Morongo Band of Mission Indians vs. Federal Aviation Administration and William Withycombe, Regional Administrator, Federal Aviation Administration at the Ninth Circuit Court Of Appeals.

REFERENCES CITED

Statutes and Regulations

40 CFR Part 1500. NEPA.

43 CFR 3809 Surface Management Regulations.

BLM Handbook H-1790-1. National Environmental Policy Act Handbook.

Government case files

BLM ECRA open case file CA for mining claims and exploratory drilling as part of the Glamis Imperial Corp.'s (formerly Chemgold's) proposed Imperial Project.

Imperial County Planning Department Reclamation Plan 149-91 file.

Publications

Anderson, J. Jan/Feb 98. "An unforgetable Thanksgiving at Indian Pass" Hi Sierran.

Baksh, M. 3/27/98. American Indian Science and Engineering Society Regional Conference at Palomar College, discussion of cultural resource issues.

BLM. 1996. Location and Patenting of Mining Claims and Mill Sites in California.

BLM. 6/94. South Coast Resource Management Plan and Record of Decision. Appendix C Areas of Critical Environmental Concern, n.b. Kuchamaa discussion. pp. 101-103.

BLM Handbook H-1790-1 NEPA Handbook.

BLM Handbook H-8410-1 Visual Resource Inventory.

BLM Handbook H-8431-1 Visual Resource Contrast Rating.

BLM. 1980. The California Desert Conservation Area Plan.

BLM. 1980. The California Desert Conservation Area Final Environmental Impact Statement and Proposed Plan, including Technical Appendices Volumes D, and G.

BLM. 1981. The California Desert Conservation Area Vol. E, Appendix IX Wildlife, revised 1/81.

BLM. 6/1994. South Coast Resource Management Plan and Record of Decision.

BLM State Director. 4/23/91. Instruction Memorandum No. CA-91-192. "Environmental documentation and other considerations for Surface mining Operations".
BLM/County of Kern. 1997. Draft EIS/EIR for Golden Queen Mining Co, Inc, Soledad Mountain Project, Mojave, Kern County, CA.

BLM/County of Imperial. 1997. Imperial Project, Draft EIS/EIR, Vol. I and II. SCH #95041025.

BLM/County of Imperial. 1996. Imperial Project, Draft EIS/EIR, Vol. I and II.

BLM/County of Imperial. 1992. Amendment to Final EA/EIR for proposed American Girl Mining Project.

BLM/County of Imperial. 1988. Final EA/EIR for proposed American Girl Mining Project.

BLM/County of Imperial. 7/1987. Padre Madre POO for Phase II Operations.

BLM/County of Imperial. 8/1987. Padre Madre POO and CUP Application for Phase II Operations.

BLM/San Bernardino County. 1997. Castle Mountain Mine Expansion Project Draft EIS/EIR, SCH #95081031.

Bumpers, Senator Dale, 2/1/98. "In an ancient outrage, Corporations get the gold--We get the shaft." The Washington Spectator.

Bureau of Reclamation/Imperial Irrigation District. 1994. Final EIS/EIR All-American Canal Lining Project.

Butler Roach Group. 1994. FEIS/EIR Mesquite Regional Landfill, and Appendix B, Hydrology Technical Report.

DeDycker & Associates. 1994. Final EIS for Oro Cruz Operation of the American Girl Mining Project.

Condor Minerals Management, Inc. 10/91. Final Supplemental Environmental Impact Report for the Proposed Chemgold Inc. Picacho Mine Dulcina Pit Phase 2, Imperial County, CA. Vol. 1 of 3. 10/91.

Condor Minerals Management, Inc. 10/91. Final Supplemental Environmental Impact Report for the Proposed Chemgold Inc. Picacho Mine Dulcina Pit Phase 2, Imperial County, CA. Vol. 2 of 3. Appendices A and C.

Environmental Solutions, Inc. 1987. Final EIR/EA for the proposed VCR Mining Project.

EnviroMine. 1997. White Pit Draft EIR for CUP #1112-93 and Reclamation Plan #162-93. SCH #94-071056.

FAA 8/29/97. EA Special Flight Rules in the Vicinity of Grand Canyon National Park. Ambient Noise in Grand Canyon National Park.

Glamis Gold Ltd. 3/98 10-K/A report to Securities and Exchange Commission.

High Country News. 1/19/98. "Summitville: An expensive lesson."

Klohn Leonoff. 1990. Construction Records Report of Liner Installation for the Site 4 Leach Pad at Picacho Mine, Imperial County, CA. V. 1 of 2.

Leshy, John D. 1987. The Mining Law: a Study in Perpetual Motion. Resources for the Future, Inc., Washington D.C.

Maley, T.S. 1996. Mineral Law, 6th Edition. Mineral Land Publications. Boise, Idaho.

Mander, J. 1991. In the Absence of the Sacred. Sierra Club Books.

Mineral Policy Center. 1997. Golden Dreams, Poisoned Streams: How Reckless Mining Pollutes America's Waters, and How We Can Stop It. Mineral Policy Center, Washington, D.C. 20006. pp. 13-15.

Montgomery Watson. 1995. Imperial County Groundwater Study Final Report.

MSA, Inc. 5/82. Final Environmental Impact Report for Picacho Mine Expansion, Imperial County.

National Research Council. 1979. Surface Mining of Non-Coal Minerals: A study of mineral mining from the perspective of the Surface Mining Control and Reclamation Act of 1977. Washington, D.C.

Obmascik, M. 12/42/92. "Bankrupt mine costly to EPA:Agency spends $800,000 a month to clean up cyanide wastes, EPA may run out of money to pay for gold mine cleanup." The Denver Post

Office of Technology Assessment. 1979. Management of Fuel and nonfuel Minerals. Washington, D.C.

PEER. 12/96. PEER White Paper "Never Mind NEPA: No Laws, No Science, No Problem for the BLM."

Perry, T. 2/9/98. "Rights and rites clash in mine plan." Los Angeles Times.

Smith, G. 1/20/98. "Mining's massive scale." San Diego Union Tribune, pp. A-1, A-11.

US Environmental Protection Agency. 9/95. Profile of the Metal Mining Industry. Office of Compliance, Office of Enforcement and Compliance Assurance, USEPA. Exhibit 20.

US Fish & Wildlife Service. 6/1/92. "Biological Opinion for Small Mining and Exploration Operations in the California Desert" (3809 6840 CA-063.50 (CA-932.5)) (1-6-92-F-28)

US Fish & Wildlife Service. 6/9/94. "Biological Opinion for Small Mining and Exploration Operations in the California Desert" (6840 CA-063.50 (CA-932.5)) (1-6-92-F-28R)

WZI Inc. 1997. Soledad Mountain Project, Mojave, Kern County, CA. EIS/EIR Vol 3, Reclamation Plan.

Legal decisions

IBLA decision re Peg Leg's Other Leg: (116 IBLA 210. Price and Thomas (1990).)

Other documents

Sierra Club Conservation Committee 3/9/97 statement requesting BLM to withhold approval of Chemgold's (now Glamis Imperial's) proposed Imperial Project on Indian Pass Road.

Declaration of Angelo Schunke in support of the appeal of Final Agency Action and included in with the Appellants Brief in Case No. 98-70033, Morongo Band of Mission Indians vs. Federal Aviation Administration and William Withycombe, Regional Administrator, Federal Aviation Administration at the Ninth Circuit Court Of Appeals.

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

Response to Comment I013:001: (See Also Response to General Comment 001.) Comment noted.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:002: (The Following Response is Also Applicable to Comments I005:020, I012:044, I012:050, I013:044, I013:045, I013:046, I013:047, I013:048, I013:049, I013:219, I013:228, I013:366, I013:367, I013:368, I013:369, I013:370, I013:371, I013:372, I013:373, I013:374, I013:375, I013:376, I013:377, I013:457, I023:002.) (See Also Response to General Comment 001.) Comment noted. A decision concerning whether to withdraw an area from mineral entry in entirely separate from a decision concerning whether to approve a Mining Plan of Operations. Therefore, any proposed withdrawal cannot be considered an alternative to the Proposed Action. Consistent with the requirements of 43 CFR 2310, BLM submitted a petition/application to the Assistant Secretary of the Interior, who approved it on October 26, 1998. On November 2, 1998, a notice was published in the Federal Register, segregated the lands from settlement, sale, location, or entry under the general land laws, including the mining laws, to the extent specified in the notice, for two years from the date of publication. Since November of 1998, BLM has conducted a public hearing, consulted with other agencies, and developed the information, studies, analyses, and reports (including the appropriate level of environmental analysis required under NEPA and other environmental laws) needed to support the recommendation to the Secretary to approve or deny the withdrawal. If the Secretary approves the withdrawal, because the withdrawal is for more than 5,000 acres, the Secretary must notify each House of the Congress. Withdrawals are limited to a maximum term of 20 years, but may be renewed.

Revisions to the Final EIS/EIR: A new paragraph is added as the third paragraph on page 3-102 (Section 3.9.1) of the Draft EIS/EIR:

> "The BLM has begun the process of formally withdrawing an area of approximately 9,360 acres, generally consistent with the Indian Pass-Running Man ATCC, from "settlement, sale, location, or entry under the general land laws, including the mining laws, but not the mineral leasing laws, in the interest of protecting recognized public values, subject to valid existing rights." Consistent with the requirements of 43 CFR 2310, the BLM has filed a petition/application with the Secretary of the Interior. Once this petition/application is accepted by the Secretary, a notice will be published in the Federal Register which segregates these lands from settlement, sale, location, or entry under the

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

general land laws, including the mining laws, to the extent specified in the notice, for two years from the date of publication of the notice. During this two-year period of segregation, the BLM will conduct public hearings, consult with other agencies, and develop the information, studies, analyses and reports (including the appropriate level of environmental analysis required under NEPA and other environmental laws) needed to support the recommendation to the Secretary to approve or deny the withdrawal petition/application. If the Secretary allows the withdrawal, because the withdrawal is for more than 5,000 acres, the Secretary must notify each House of the Congress, and the withdrawal is subject to Congressional review. Withdrawals are limited to a maximum term of 20 years, but may be renewed."

Response to Comment I013:003: (The Following Response is Also Applicable to Comments I013:212, I013:213, I013:214 and I013:215.) (See Also Response to Comment I013:216.) As stated on the first page, California BLM Instruction Memorandum CA-91-192 expired on 09/30/92.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:004: (The Following Response is Also Applicable to Comments I012:046, I013:005, I013:006, I013:007, J011:007, J022:001.) Section 1.3. ("Prior EIS/EIR Documentation," pages 1-5 and 1-6) of the Draft EIS/EIR documents the announcement by the agencies that a new Draft EIS/EIR for the Imperial Project would be prepared and circulated; the BLM Federal Register Notice of Withdrawal of the November 1996 Draft EIS for the Imperial Project; the BLM Notice of Intent to Prepare an EIS for the Imperial Project, which stated that all comments received on the November 1996 Draft EIS/EIR would be treated as scoping comments for the new Draft EIS and solicited new written scoping comments; and the decision of Imperial County that the November 1996 Draft EIR would be revised and recirculated pursuant to Public Resources Code Section 21092.1 and Title 14, Code of California Regulations, Section 15088.5, which states: "When the EIR is substantially revised and the entire EIR is recirculated, the lead agency may require that reviewers submit new comments and need not respond to those comments received during the earlier circulation period."

Section 1.4. ("Scoping Using Previous Comments,", pages 1-6 through 1-8) of the Draft EIS/EIR documents copies of all of the written comments received, and transcripts of all of the verbal comments given during the public hearings, on the November 1996 Draft EIS/EIR are on file with the BLM and the ICPBD, and may be viewed during normal business hours; and provides a summary

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

of the principal issues of public and agency concern expressed in these comments, organized by resource or general topical area, and a summary of how this Draft EIS/EIR differs from the November 1996 Draft EIS/EIR in response to each of these primary issues of public and agency concern, in Table 1.1.

Section 1.5. ("Scoping and Consultation Process," pages 1-8 through 1-10) of the Draft EIS/EIR documents that additional written scoping comment letters were received during the scoping period, provides a summary of the primary issues of public and agency concern expressed in these scoping comments, organized by resource or general topical area, together with a count of the number of comments received regarding each general resource or topical area, Table 1.2; and that additional letters were received subsequent to the close of the public scoping period, which letters did not contain any information not previously identified in other scoping comments or addressed in the EIS/EIR, and which letters could be viewed during normal business hours at the offices of the BLM and ICPBD.

Because the November 1996 EIS was withdrawn by the BLM, it is not a document supported by the BLM; thus, the November 1997 Draft EIS/EIR is not a "Supplemental EIS." 40 CFR 1503.4 requires an agency to respond to comments when preparing a final environmental impact statement; this is the final EIS, and responses to the comments have been prepared. Further, 40 CFR 1503.4(b) states that "All substantive comments received on the draft statement (or summaries thereof where the response has been exceptionally voluminous), should be attached to the final statement whether or not the comment is thought to merit individual discussion by the agency in the text of the statement." (*emphasis added*) Summaries of all of the comments received on the November 1997 Draft EIS/EIR have been prepared and are a part of this Final EIS/EIR. 40 CFR 1505.1(c) and (d) require that relevant environmental documents, comments, and responses be part of the record and accompany the proposal through existing agency review processes. All of the scoping comments are part of the BLM administrative record, and all of the relevant environmental documents, comments, and responses will accompany the proposed decision on the Project Plan of Operations through the BLM review process.

CEQA does not require formal "public scoping," although 14 CCR 15083 suggests that "Prior to completing the draft EIR, the Lead Agency may also consult directly with any person or organization it believes will be concerned with the environmental effects of the project." Neither CEQA nor the CEQA guidelines require the printing and distribution of "scoping" letters in a Draft EIR, although it has been the general practice to do so in Imperial County. However, based on the sheer volume

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

of such "scoping" letters (consisting of approximately eight inches of pages) led the agencies to not reproduce copies with the Draft EIS/EIR, but (as stated in the Draft EIS/EIR) to make them available to the public for review at the offices of the agencies. The comment itself admits that this procedure provided the comment author with sufficient opportunity to review all of the "scoping" comments. Further, 14 CCR 15132(b) states that the Final EIR should contain "Comments and recommendations received on the draft EIR either verbatim or in summary." (*emphasis added*) As stated above, summaries of all of the comments received on the November 1997 Draft EIS/EIR have been prepared and are a part of this Final EIS/EIR.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:005: See Response to Comment I013:004.

Response to Comment I013:006: See Response to Comment I013:004.

Response to Comment I013:007: See Response to Comment I013:004.

Response to Comment I013:008: (The Following Response is Also Applicable to Comments I013:009, I013:010, and I013:011.) The Project location contained in Section 1.1. of the November 1997 Draft EIS/EIR and Section 3.1. of the Reclamation Plan (Appendix A of the Draft EIS/EIR) are correct; the listing of affected sections contained in the November 1996 Draft EIS/EIR were in error, as pointed out by this comment author in comments to the November 1996 Draft EIS/EIR (which have been used as scoping comments for the November 1997 Draft EIS/EIR). The northern boundary shown in Figure S-3 has always been correct. The legal description of the lands involved in County Reclamation Plan No. 149-91 is not relevant to the Project, as they address two different "projects." The legal description of the Project area in Appendix L of the Draft EIS/EIR is likely related to the "area of potential effect," or the area surveyed, which likely included portions of these two additional sections. Appendix L, Figure 1-5 is stated as "not to scale," while Figure 1-4 is to "scale," hence the difference. Both are correct for their intended purposes.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:009: See Response to Comment I013:008.

Response to Comment I013:010: See Response to Comment I013:008.

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

Response to Comment I013:011: See Response to Comment I013:008.

Response to Comment I013:012: See Response to Comment I012:042.

Response to Comment I013:013: See Response to Comment I012:042.

Response to Comment I013:014: (The Following Response is Also Applicable to Comments I013:015, I013:016, I013:017, I013:018, I013:019, I013:020, I013:021, I013:022, I013:023, I013:024, I013:025, I013:026, I013:027, I013:028; and I013:029.) This material discusses historic activities and does not provide any comment on the Draft EIS/EIR, nor is it relevant to the decisions before the BLM regarding the proposed Plan of Operation and Reclamation Plan or Imperial County regarding the proposed Reclamation Plan. As such, the comment is noted. However, to the extent that areas previously disturbed by exploratory operations are now proposed to be disturbed by the Project, reclamation required under the exploratory approvals would be superceded by the reclamation required for the Project.

Revisions to the Draft EIS/EIR: None

Response to Comment I013:015: See Response to Comment I013:014.

Response to Comment I013:016: See Response to Comment I013:014.

Response to Comment I013:017: See Response to Comment I013:014.

Response to Comment I013:018: See Response to Comment I013:014.

Response to Comment I013:019: See Response to Comment I013:014.

Response to Comment I013:020: See Response to Comment I013:014.

Response to Comment I013:021: See Response to Comment I013:014.

Response to Comment I013:022: See Response to Comment I013:014.

Response to Comment I013:023: See Response to Comment I013:014.

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

Response to Comment I013:024: See Response to Comment I013:014.

Response to Comment I013:025: See Response to Comment I013:014.

Response to Comment I013:026: See Response to Comment I013:014.

Response to Comment I013:027: See Response to Comment I013:014.

Response to Comment I013:028: See Response to Comment I013:014.

Response to Comment I013:029: See Response to Comment I013:014.

Response to Comment I013:030: Comment noted. None of the exploratory drilling was conducted "for an open pit mine."

Revisions to the Final EIS/EIR: None.

Response to Comment I013:031: (See Also Response to Comment I010:002) The discussion in Section 1.6.1. of the BLM's policies and authorizing actions quoted all of those portions of FLPMA and the surface management regulations (43 CFR 3809) deemed particularly relevant.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:032: (See Also Response to Comment I010:002) The discussion in Section 1.6.1. of the BLM's policies and authorizing actions quoted all of those portions of FLPMA and the surface management regulations (43 CFR 3809) deemed particularly relevant.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:033: (See Also Response to Comment I010:002) The discussion in Section 1.6.1. of the BLM's policies and authorizing actions quoted all of those portions of FLPMA and the surface management regulations (43 CFR 3809) deemed particularly relevant.

Revisions to the Final EIS/EIR: None.

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

Response to Comment I013:034: (The Following Response is Also Applicable to Comments I013:035 and I015:006.) Although under these regulations the federal government has the responsibility for, and must pay the costs of, "salvaging" the identified cultural resources, in practice these costs are almost universally paid by the operator to ensure that they are completed timely. If this were not the case, the cost to the federal government would be great. However, who pays the costs does not alter the assessment of the environmental effects of the Project.

As stated in Section 4.1.6.2. (page 4-81) of the Draft EIS/EIR:

> "Most prehistoric trails are evaluated as eligible under Criterion "D" only, but named trails, those associated with a concentration of cultural features, and those that are particularly well preserved are evaluated as eligible under Criteria "C" and "D." . . . Impacts to the cultural resources ultimately determined eligible for the NRHP under criterion "D" would be considered significant unless a treatment program to recover the scientific information and other NRHP-qualifying values of each resource is successfully implemented before the Proposed Action proceeds with the activities which would impact that resource. If cultural resources determined to be significant under Criterion "A," "B" or "C" are adversely affected by the Proposed Action, a determination of adverse effect would need to be made by the BLM, and the resulting impacts would be significant."

The archaeological data recovery program at cultural resource sites which cannot be avoided required under Mitigation Measure 4.1.6-17 would be the "salvage" program. However, as stated in Section 4.1.6.4. (page 4-87) of the Draft EIS/EIR, even after implementation of all mitigation measures, the impacts of the Project to cultural resources evaluated as eligible for the NRHP under Criteria "A" or "C," including selected trails, would still be significant.

BLM is aware of all applicable statutes and regulations and will apply them in making its decision.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:035: See Responses to Comments I012:023, I012:044 and I013:034.

Response to Comment I013:036: See Response to Comment I012:044.

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

Response to Comment I013:037: CEQA is applicable to the Project for other reasons; Section 1.2. (page 1-5) notes that a joint EIS/EIR has been prepared in conformance with both NEPA and CEQA, with Imperial County as the Lead Agency responsible for compliance with CEQA. Even though Imperial County has limited land use authority (i.e., Reclamation Plan and the Conditional Use Permit for the ground water wells), Imperial County is the lead agency for the purposes of CEQA. Consequently, Imperial County has required compliance with all requirements in CEQA.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:038: See Response to Comment I010:002.

Response to Comment I013:039: See Response to Comment I010:002.

Response to Comment I013:040: See Response to Comment I010:002.

Response to Comment I013:041: See Response to Comment I010:002.

Response to Comment I013:042: See Response to Comment I010:002.

Response to Comment I013:043: See Response to Comment I010:002.

Response to Comment I013:044: See Response to Comment I013:002.

Response to Comment I013:045: See Response to Comment I013:002.

Response to Comment I013:046: See Response to Comment I013:002.

Response to Comment I013:047: See Response to Comment I013:002.

Response to Comment I013:048: See Response to Comment I013:002.

Response to Comment I013:049: See Response to Comment I013:002.

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

Response to Comment I013:050: (See Also Response to Comment I010:002) The discussion in Section 1.6.1. of the BLM's policies and authorizing actions quoted all of those portions of FLPMA and the surface management regulations (43 CFR 3809) deemed particularly relevant.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:051: (See Also Response to Comment I010:002) The discussion in Section 1.6.1. of the BLM's policies and authorizing actions quoted all of those portions of FLPMA and the surface management regulations (43 CFR 3809) deemed particularly relevant.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:052: See Response to Comment I010:002.

Response to Comment I013:053: See Response to Comment I010:002.

Response to Comment I013:054: See Response to Comment I010:002.

Response to Comment I013:055: See Response to Comment I010:002.

Response to Comment I013:056: (The Following Response is Also Applicable to Comments I013:057 and I013:058.) Comment noted. However, the quoted material does not alter the information, analysis, or conclusions of the EIS/EIR.

Revisions to the Final EIR/EIS: None.

Response to Comment I013:057: See Response to Comment I013:056.

Response to Comment I013:058: See Response to Comment I013:056.

Response to Comment I013:059: See Response to Comment I010:002.

Response to Comment I013:060: See Response to Comment I010:002.

Response to Comment I013:061: See Response to Comment I010:002.

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

Response to Comment I013:062: See Response to Comment I010:002.

Response to Comment I013:063: See Response to Comment I010:002.

Response to Comment I013:064: See Response to Comment I010:002.

Response to Comment I013:065: See Response to Comment I010:002.

Response to Comment I013:066: (The Following Response is Also Applicable to Comment I013:067.) Comment noted; however, the comment does not provide any specific references to the Draft EIS/EIR to which a response can be made. Imperial County disputes that the Draft EIS/EIR fails to meet CEQA requirements. As stated in Section 1.2 of the Draft EIS/EIR, it is recognized that the purpose of the environmental document is to inform decision-makers of the anticipated significant environmental effects of the Proposed Action, the possible ways to mitigate these significant effects of the Proposed Action, and reasonable alternatives which could feasiblely reduce those identified significant environmental impacts of the Proposed Action to below the level of significance. See also Response to General Comment 002 for the location of impacts and mitigation measures within the Draft EIS/EIR. Alternatives to the Proposed Action are discussed in Section 2.2. of the Draft EIS/EIR.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:067: See Response to Comment I013:066.

Response to Comment I013:068: As stated in Section 3.9.1. (Regulatory Framework, page 3-100) of the Draft EIS/EIR, "As Imperial County has no direct land use jurisdiction over public lands, neither the General Plan nor the Imperial County zoning regulations are directly applicable to activities proposed on public lands." Citation of the zoning ordinance as it pertains to conditional use permits is more appropriately part of Imperial County's decision-making process regarding the Conditional Use Permit, rather than part of the environmental assessment required under CEQA, and this issue will be appropriately addressed in the findings for the decision on the Conditional Use Permit.

Revisions to the Final EIS/EIR: None.

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

Response to Comment I013:069: See Response to Comment I013:068.

Response to Comment I013:070: See Response to Comment I013:068.

Response to Comment I013:071: See Response to Comment I013:068.

Response to Comment I013:072: See Response to Comment I012:042.

Response to Comment I013:073: Principal revisions to the Proposed Action were summarized in Table 1.3 of the Draft EIS/EIR. The first item in this table is "Reduction of the mass of waste rock to be mined to 300 million tons from 450 million tons as a result of additional geologic information." By comparing the surface area disturbed by each of the pits in Table 2.1 in both the November 1996 Draft EIS/EIR and the November 1997 Draft EIS/EIR, the reader will notice a nearly 12 percent reduction in surface area.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:074: The comment is correct, in that the standard notation for topographic depressions was not used for these graphics; the contour lines were so dense that the notation (consisting of "tic" marks inside the contour lines) would not be visible. Figure 2.4 shows the East Pit with the rim of the pit at 820 feet and the bottom of the pit at -60 feet, for a depth of 880 feet. Table 2.2 of the Draft EIS/EIR explicitly states that the bottom of the East Pit would be at -60 feet above mean sea level. As stated in Section 2.1.1. (page 2-3) of the Draft EIS/EIR (and in many places following), no backfilling of the East Pit is planned, although Section 2.1.3. (page 2-12) states that if a pit lake in the East Pit may form, the floor of the East Pit would be raised by backfilling to a level higher than the level of any pit lake that may be formed from the inflow of ground water.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:075: See Response to Comment I002:010.

Response to Comment I013:076: The comment is correct, in that nothing in the Plan of Operation or the Reclamation Plan or the Draft EIS/EIR requires the Applicant to completely backfill either the West Pit or the Singer Pit if mining operations are suspended or terminated early. The analysis

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

of this possibility in the Draft EIS/EIR (which is essentially identical to the West Pit Alternative) identified that the possible creation of a pit lake in the open West Pit, and the lack of a public safety barrier around the West Pit and Singer Pit if either or both remained open, would be potentially significant impacts. These analyses, referenced by the comment as being on pages 4-13, 4-48, and 4-55 of the Draft EIS/EIR, resulted in two mitigation measures being proposed which would reduce the effects of leaving these pits open or partially backfilled to below the level of significance; Mitigation Measure 4.1.12-10 "Before removal of the perimeter fence at the end of the active life of the Project, Applicant shall construct around the rim of the [*sic*] all open pit(s) a barricade with large boulders to prevent vehicular access and discourage pedestrian access by the public over slopes which could constitute a hazard," (*emphasis added*), and Mitigation Measure 4.1.5-48, which requires the partial backfilling of the West Pit to prevent a pit lake if mining is terminated early.

Revision to the Final EIS/EIR: None.

Response to Comment I013:077: See Response to Comment I010:006.

Response to Comment I013:078: See Response to Comment I002:012.

Response to Comment I013:079: (The Following Response is Also Applicable to Comments I013:080, I013:081, I013:082, I013:083, I013:084, and J013:003.) Chemgold has not disclosed any plans to expand the Picacho mine in the future, but future technologies or changes in the price of gold could change the economics of mining residual gold deposits in the walls of closed pit mines. The complete pit backfill alternative is one of the Project alternatives analyzed in the Draft EIS/EIR.

Revision to the Final EIS/EIR: None

Response to Comment I013:080: See Response to Comment I013:079.

Response to Comment I013:081: See Response to Comment I013:079.

Response to Comment I013:082: See Response to Comment I013:079.

Response to Comment I013:083: See Response to Comment I013:079.

Response to Comment I013:084: See Response to Comment I013:079.

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

Response to Comment I013:085: See Response to Comment I010:006.

Response to Comment I013:086: See Response to Comment I010:006.

Response to Comment I013:087: See Response to Comment I010:006.

Response to Comment I013:088: See Response to Comment I010:006.

Response to Comment I013:089: See Response to Comment I010:006.

Response to Comment I013:090: See Response to Comment I010:006.

Response to Comment I013:091: See Response to Comment I010:006.

Response to Comment I013:092: See Response to Comment I010:006.

Response to Comment I013:093: See Response to Comment I010:006.

Response to Comment I013:094: See Response to Comment I010:006.

Response to Comment I013:095: See Response to Comment I010:006.

Response to Comment I013:096: (The following response is also applicable to Comment I013:097.) Crushing of ore is undertaken only when it is necessary to optimize the ability to recover gold through the heap leach process. Many of the precious metal mines which crush the ore also deliver "run-of-mine" (uncrushed) ore to the heap. Other mines, like the Imperial Project, produce only run-of-mine ore; nearby examples are the Picacho Mine and the Rand Mine in Kern County.

The heap leach liner is protected from puncture by layers of geofabric and a gravel layer, as stated in Section 2.1.8.1. (page 2-16) of the Draft EIS/EIR:

> "Following the placement of one (1) layer of ten-ounce geofabric and one (1) layer of sixteen-ounce geofabric above the 40-mil PVC geomembrane liner, a 12-inch layer of minus 3-inch screened/crushed, free-draining gravel would be placed on top of the liner system to protect the liner, facilitate the collection and removal of leach solution, and minimize the

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

hydraulic head on the synthetic liner (see Figure 2.6). The screened gravel would be placed at a thickness of 24 inches in localized areas to anchor and protect the engineered drain pipe network."

Crushing of the Imperial Project ore is not necessary to process the ore or protect the heap liner, and is not proposed as part of the Project.

The BLM responded to public requests for performance of an examination of valid existing rights (a validity exam) for the Glamis Imperial Corporation mineral claims of the Imperial Project. An investigation was initiated, but never completed, on the Glamis mining claims. Prior to completing a valid existing right determination, BLM chose to complete the EIS/EIR on the project to conclude whether or not the Project would cause unnecessary or undue degradation, or undue impairment of resources of the CDCA.

Revisions to the Final EIS/EIR: None

Response to Comment I013:097: See Response to Comment I013:096.

Response to Comment I013:098: See Response to Comment I013:099.

Response to Comment I013:099: (The Following Response is Also Applicable to Comments I002:006 and I013:098.) The comment appears to confuse the ratio of potential evaporation over pit inflow due to seepage and rainfall and the estimated potential evaporation rate. These two numbers need not be equivalent; in fact, it would be an extremely unusual coincidence if they were.

Appendix E-1 on page 5 states that "Evaporation rates in the project area are estimated to be about 100 inches per year," and cites the hydrological assessment report prepared for the Mesquite Regional Landfill as the source. The main text of the Draft EIS/EIR does not explicitly state the evaporation rate in the Project area, but Section 2.1.3. [Proposed Action; Mining] (pages 2-10 and 2-11) of the Draft EIS/EIR states that "Calculations conducted for the East Pit indicate that the estimated annual evaporation rate is approximately 170 times the annual estimated ground water and precipitation inflow rates. . . ." This value is repeated in the analysis in Section 4.1.3.1.2. [Hydrologic Resources; Surface Waters; Ground Water Inflows] (page 4-12) regarding the potential for the formation of a pit lake. These statements that the estimated annual evaporation rate is approximately 170 times the annual estimated ground water and precipitation inflow rates have been

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

determined to be in error; the annual evaporation rates are actually approximately six times the annual ground water and precipitation rates for each pit.

Appendix E-1 (Section 4.3.4 Pit Inflow) of the Draft EIS/EIR on pages 16 and 17 calculates values for pit inflow from both precipitation and ground water for both the West Pit and the East Pit using an equation for ground water inflow presented in Appendix B to Appendix E-1 of the Draft EIS/EIR. Appendix E-1 (page 16) gives the estimated ground water inflow contributed from the bedrock aquifer into the East Pit and West Pit after 100 days as 300 cubic feet per day (1.5 gpm) and 150 cubic feet per day (0.7 gpm), respectively. Based upon estimates of pit inflow from precipitation and outflow rates from evaporation, Appendix E-1 (page 17) provides the following summary table of pit inflow/outflow calculations:

INFLOW (+) OR OUTFLOW(-)	EAST PIT (ft^3/yr)	WEST PIT (ft^3/yr)
Precipitation & Groundwater	1.00e+06	9.40e+05
Evaporation	-1.70e+07	-9.40e+06
Difference	-1.60e+07	-8.46e+06

Based upon these values, Appendix E-1 (page 17) of the Draft EIS/EIR concluded that "Each of these pit inflow estimates is approximately 10 percent of the estimated total evaporation for each pit, indicating that the formation of a pit lake is not probable."

Recalculation of these ground water inflow rates using the equation and values contained in Appendix B to Appendix E-1 of the Draft EIS/EIR give revised values of 622 cubic feet per day (3.2 gpm, or 2.27×10^5 cubic feet per year) and 166 cubic feet per day (0.9 gpm, or 6.06×10^6 cubic feet per year) for the East Pit and West Pit, respectively. We believe that the previous values were calculation errors. Inflow as a result of annual precipitation was recalculated by multiplying the area disturbed by each pit (110 acres for the West Pit and 198 acres for the East Pit; see Table 2.1 of the Draft EIS/EIR) by the annual precipitation rate of 3.6 inches (as measured at Gold Rock Ranch [see Section 3.3.2.1., page 3-23, of the Draft EIS/EIR]). (Appendix E-1 used an annual precipitation rate of 5.5 inches per year, which is substantially greater than that measured at Gold Rock Ranch or El Centro, Blythe, Yuma, or the Mesquite Mine [Environmental Solutions, 1993], and also likely used slightly different areas for each pit). Annual evaporation was calculated by multiplying the same

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

estimated evaporation rate of 100 inches per year used in Appendix E-1 (and by other projects in the region) by the area of each pit at the depth to ground water (46 acres for the East Pit and 26 acres for the West Pit, which are also the areas used for the ground water inflow calculations). (This is a conservative assumption, since evaporation of some precipitation would also occur on the benches and slopes of the pits.) New Table 4.3 added to the Final EIS/EIR summarizes these recalculated values. As shown in Table 4.3, evaporation outflow exceeds ground water and precipitation inflow by approximately six times for each pit. Based upon these recalculated values, it was concluded that the formation of a pit lake is not probable in either pit.

Table 4.3: Estimated Pit Water Balance (Inflow and Outflow) - Expected Transmissivities

ANNUAL INFLOW OR OUTFLOW	EAST PIT (ft^3/yr)	WEST PIT (ft^3/yr)
Ground Water Inflow	2.27e+05	6.06e+04
Precipitation Inflow	2.59e+06	1.44e+06
Total Inflow	**2.81e+06**	**1.50e+06**
Evaporation Outflow	-1.68e+07	-9.42e+06
Difference	**-1.40e+07**	**-7.93e+06**
Outflow/Inflow Ratio	**6.0**	**6.3**

Because the Project pit inflow estimates were based on limited data, the Draft EIS/EIR made additional calculations using hydraulic conductivity values ten times higher to evaluate possible higher ground water inflows to each pit (see Section 4.1.3.1.2. [pages 4-12 and 4-13] of the Draft EIS/EIR). These ground water inflow values were recalculated using transmissivities ten times greater than presented in Appendix E-1 to the Draft EIS/EIR. As shown in Table YY*, the annual evaporation outflow rate still exceeds the ground water and precipitation inflow rates (by over two times for the East Pit and over three times for the West Pit), and we again conclude that the formation of a pit lake is not probable in either pit even with the higher transmissivities.

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

Table YY*: Estimated Pit Water Balance (Inflow and Outflow) - Higher Transmissivities

ANNUAL INFLOW OR OUTFLOW	EAST PIT (ft^3/yr)	WEST PIT (ft^3/yr)
Ground Water Inflow	5.28e+06	1.36e+06
Precipitation Inflow	2.59e+06	1.44e+06
Total Inflow	**7.86e+06**	**2.80e+06**
Evaporation Outflow	-1.68e+07	-9.42e+06
Difference	**-8.94e+06**	**-6.63e+06**
Outflow/Inflow Ratio	**2.1**	**3.4**

These smaller, recalculated values for the ratio of the water outflow to the water inflow for the pits simply decreases the certainty that no pit lakes would naturally form in either pit if no actions were taken subsequent to mining. As stated in Section 4.1.3.1.2. (page 4-13) of the Draft EIS/EIR, "The effects of any pit lake on ground water hydrology are less than significant." Section 4.1.3.1.2. (page 4-13) of the Draft EIS/EIR also discusses the possibility of localized moist areas, seasonal seeps, or ephemeral, localized ponds in the open pits, and states that these effects on hydrology are below the level of significance (because so little water would be lost and there are no springs or seeps in the area which could be affected). [One comment has incorrectly converted the pit inflow rate in gallons per minute (gpm) to other units. An inflow rate of 1.5 gpm is equivalent to 2,160 gallons per day, or 788,400 gallons per year, or 2.4 acre-feet per year, not the 13 acre-feet per year as stated in the comment. Based upon the recalculated information presented in Table 4.3, above, pit inflows are conservatively estimated to be 5.2 acre-feet for the first year for the East Pit and 1.4 acre-feet for the first year for the West Pit (inflows into each pit would decrease somewhat in the following years). Inflow to and possible evaporation from the West Pit would only occur during the time the pit is being mined; once it is backfilled (less than five years), any substantial loss of water through evaporation would cease. The East Pit is proposed to remain open (unless a pit lake is likely to form), and could continue to evaporate as much as 5.2 acre-feet per year (3.2 gpm). This rate of flow is clearly insignificant when compared to either the estimated amount of usable and recoverable water in the basin (230,000,000 acre-feet) or the estimated basin recharge (30,000 acre-feet year).]

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

As stated in Section 4.1.5.3.3. (page 4-55) of the Draft EIS/EIR, wildlife attracted to seasonal seeps, ephemeral ponds, or pit lakes which may naturally form could be subject to additional predation, but also states that mitigation measures are proposed for the East Pit (Mitigation Measure 4.1.5-5) and the West Pit (Mitigation Measure 4.1.5-48), and for both pits (Mitigation Measure 4.1.5-49), which reduce these impacts to below the level of significance.

The text of the Final EIS/EIR will be corrected in Section 2.1.3. [Proposed Action; Mining] (pages 2-10 and 2-11), Section 4.1.3.1.2. [Hydrologic Resources; Surface Waters; Ground Water Inflows] (page 4-12), and Section 4.1.3.2.2. (page 4-21) to reflect these recalculated values. Section 3.4.2. (page 3-35) of the Draft EIS/EIR will be revised to include the evaporation rate.

The depth of the backfill into the open pit (to prevent the formation of a pit lake) is unrelated to the potential for the backfill to degrade the quality of the ground water. The results of the extensive analysis of this issue are summarized in Section 4.1.3.2.2. (pages 4-23 through 4-25) of the Draft EIS/EIR, and additional details are available in Appendix C-1 and Appendix C-2 of the Draft EIS/EIR. As stated in Section 4.1.3.2.2. (page 4-25) of the Draft EIS/EIR, "The results of all of the geochemical models predict that the dissolved constituent concentrations present in the ground water which has equilibrated with the backfilled material in the pits would be at, or below, the current concentrations present in the ground water. Therefore, no impacts to ground water quality are expected to occur from the complete or partial backfilling of any of the Project pits."

Revisions to the Final EIS/EIR: A new sentence is added to the end of the first paragraph of Section 3.4.2. on page 3-35 of the Draft EIS/EIR as follows to include the value for the evaporation rate: "The annual evaporation rate is estimated at 100 inches per year (BLM and ICPBD 1995)."

The second sentence of the fifth paragraph on page 2-11 (and following) of the Draft EIS/EIR is revised as follows to reflect recalculation of the excess evaporation from the open East Pit: "Calculations conducted for the East Pit indicate that the estimated annual evaporation rate is ~~approximately 170 times~~ in excess of the annual estimated ground water and precipitation inflow rates, indicating that the formation of a pit lake in the bottom of the East Pit after the cessation of mining activities is not probable."

The second paragraph on page 4-12 (and following) in Section 4.1.3.1.2. of the Draft EIS/EIR is revised as follows to reflect recalculation of the excess evaporation from the open East Pit:

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

"After the cessation of mining activities, it is possible that ground water seepage, surface runon or direct precipitation may accumulate in the bottom of either the East Pit. Calculations conducted by WESTEC (1996a) based on projected ground water inflow to the pit, annual precipitation, and annual evaporation for the East Pit indicated that the estimated annual evaporation rate ~~is~~ would be approximately ~~170~~ 10 times the annual estimated ground water and precipitation inflow rate ~~(WESTEC, Inc. 1996a)~~ (see Appendix E-1). Because of the modifications made to the Project in 1997, these ground water inflow, precipitation inflow, and evaporation outflow values were recalculated using the same equations and assumptions contained in Appendix B to Appendix E-1 except that the precipitation inflow calculation used the revised areas disturbed by each pit (110 acres for the West Pit and 198 acres for the East Pit; see Table 2.1) and the annual precipitation rate of 3.6 inches (see Section 3.4.2.). Table 4.3 provides these recalculated values, and shows that the evaporation outflow exceeds ground water and precipitation inflow by approximately six times for each pit.

Table 4.3: Estimated Pit Water Balance (Inflow and Outflow)

ANNUAL INFLOW OR OUTFLOW	EAST PIT (ft^3/yr)	WEST PIT (ft^3/yr)
Ground Water Inflow	2.27e+05	6.06e+04
Precipitation Inflow	2.59e+06	1.44e+06
Total Inflow	**2.81e+06**	**1.50e+06**
Evaporation Outflow	-1.68e+07	-9.42e+06
Difference	**-1.40e+07**	**-7.93e+06**
Outflow/Inflow Ratio	**6.0**	**6.3**

"Because the project pit inflow estimates are based on limited data, additional calculations using ~~hydraulic conductivity~~ transmissivity values ten (10) times higher were made to evaluate possible higher inflows to the pit. These calculations indicated that even in the event that inflow rates an order of magnitude greater than those expected based on existing data, annual evaporation would still exceed annual inflow by greater than a factor of two for the

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

~~East Pit (Personal Communication, John Heggeness, WESTEC, 1996)~~. Thus, the formation of a pit lake in the bottom of the East Pit after the cessation of mining activities is not likely. The Proposed Action also proposes to conduct an assessment at the end of mining and to backfill the East Pit with waste rock to an elevation which would ensure that no standing water would remain in the pit bottom if the assessment indicates that there is a reasonable potential for a pit lake to form. This reduces the potential for the formation of a pit lake in the East Pit even further. (See also Section 4.1.3.2.2. for a discussion of the potential for the degradation of ground water quality as a result of evaporation and/or leaching of minerals from a pit lake, should it form.) The effects of any pit lake on ground water hydrology are less than significant. However, see Section 4.1.5.3.2. for a discussion of the potential adverse effects of a pit lake on wildlife."

The third sentence of the fourth paragraph on page 2-11 of the Draft EIS/EIR is revised as follows to reflect recalculation of the inflow to the pits: "However, tests conducted to date have indicated that the hydraulic conductivity of the bedrock formation is very low, and total ground water inflow has been estimated at only ~~1.5~~ 0.9 gpm for the West Pit and ~~0.7~~ 3.2 gpm for the East Pit.

The first sentence of the third paragraph on page 4-21 of the Draft EIS/EIR is revised as follows to reflect recalculation of the inflow to the pits: "Ground water inflows into open pits are predicted to be very small, only ~~1.5~~ 0.9 gpm (~~2.4~~ 1.4 afy) for the West Pit and ~~0.7~~ 3.2 gpm (~~1.1~~ 5.2 afy) for the East Pit. This rate of ground water inflow would have a negligible effect on ground water levels in the vicinity of the pits or beyond."

Response to Comment I013:100: All laboratory analytical programs have the potential for error due to a variety of factors, e.g., incorrect detection limits, wrong sample size, reporting error, etc. As a part of a laboratory's quality assurance/quality control (QA/QC) program, duplicate samples, spiked samples, and blanks are analyzed to determine method precision and accuracy. In addition, careful review of analytical data by qualified persons is also conducted to reveal any inconsistencies in the data. If determined appropriate based on these reviews, analyses may be conducted again. Each of these measures was applied to the data for the waste characterization study. Where certain laboratory errors were either noted or suspected by either the laboratory or the author of the waste characterization study, the laboratory records were reviewed and the sample reanalyzed, as necessary or appropriate. The correct analytical values were then used in the waste characterization study.

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

The nine samples analyzed as part of the waste characterization study conducted to determine the acid generation and metals mobility potential of the rock which may be used to backfill either the West Pit or East Pit in the Imperial Project pits were determined sufficient to adequately characterize the rock types present in the Imperial Project pits since there are only four rock types. The samples locations were well distributed over the sources of the rock (see Figure 1 of Appendix C-2), the individual samples were composites of cores over substantial depth intervals (see Table 1 of Appendix C-2), and the individual samples were large (40 pounds). No additional samples are necessary.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:101: See Response to Comment E001:009.

Response to Comment I013:102: See Response to Comment E001:009.

Response to Comment I013:103: See Response to Comment E001:009.

Response to Comment I013:104: See Response to Comment E001:009.

Response to Comment I013:105: See Response to Comment E001:009.

Response to Comment I013:106: Ammonium nitrate is a common fertilizer, but little residual ammonium nitrate or fuel oil is left in the rock after blasting because the explosive reaction of the ammonium nitrate and fuel oil is efficient. The concerns expressed regarding the residual fertilizing effects of ammonium nitrate and "contaminating" effects of residual fuel oil are not recognized as a problem in mines. As stated in Section 4.1.12.2. (page 4-121) of the Draft EIS/EIR, small quantities of the ammonium nitrate, diesel fuel and other chemicals would likely be spilled within the Project mine and process area. As stated in Section 2.1.9.4. (page 2-25) of the Draft EIS/EIR, annual consumption of ammonium nitrate would be approximately 7,500 tons, not 7,500 gallons. At a mixing ratio of approximately 93 weight percent ammonium nitrate to seven weight percent fuel oil, approximately 564 tons (approximately 136,000 gallons) of fuel oil would be consumed annually as a part of blasting.

Revisions to the Final EIS/EIR: None.

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

Response to Comment I013:107: See Responses to Comments F001:003 and I009:013.

Response to Comment I013:108: (The Following Response is Also Applicable to Comments J007:005 and J017:002.) (See Also Response to Comment F002:015.) The perimeter fencing around the Project mine and process area was designed and intended to discourage or restrict public access into the Project mine and process area and prevent access into the Project mine and process area by the desert tortoise. The perimeter fencing was not designed or intended to prevent access into the Project mine and process area by other wildlife, although the fencing designed to prevent access by the desert tortoise may have such an effect on certain species (". . . during the life of the Project the movements of some wildlife through the Project mine and process area would be restricted as a result of the perimeter fence. . . ." [Section 4.1.5.3.2. (page 4-53) of the Draft EIS/EIR].

As stated in Mitigation Measure 4.1.12-2 (page 4-123) in Section 4.1.12. (Emergency Services and Public Safety) of the Draft EIS/EIR, "Applicant shall construct and maintain a fence around the perimeter of the Project mine and process area over the life of the Project. . . ." Mitigation Measure 4.1.5-1 (page 4-46 and following) of the Draft EIS/EIR states:

> "Applicant shall construct a fence around the entire Project mine and process area. The fence shall be constructed no less than four (4) feet in height with 3-strands of smooth wire, or equivalent. That portion of the perimeter fence constructed along the western boundary of the Project mine and process area, including all of the fenceline adjacent to Indian Pass Road (see Figure 2.2), shall be a chain-link fence, no less than six (6) feet in height, to restrict public access to the Project mine and process area."

Mitigation Measure 4.1.5-1 (page 4-46 and following) of the Draft EIS/EIR also states that: "The entire perimeter fence shall include desert tortoise exclusion fencing, in conformance with responsible agency requirements, to inhibit tortoise access to Project facilities. . . ."

The type and extent of the perimeter fencing is consistent with that required by other mining projects in the region (chain-link fence in places more exposed to public view, and smooth-wire [or, in some cases, no fence] in areas less exposed to public access). The smooth wire fence, with tortoise-proof fencing at its base, is designed to provide a demarcation for safety purposes as well as allow the resident animals to continue to use the areas within the Project as forage and habitat, as well as, allowing the deer to use their historic routes of travel without impediment.

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

Those internal areas of the Project mine and process area which could be especially attractive to, or contain chemicals toxic to, wildlife (i.e., the ore heap leach pad, process facilities, and the freshwater pond) would be enclosed within a six-foot chain-link fence topped with one-foot of barbed wire, and the exposed surfaces of facilities which contain cyanide leaching solution will be covered with nets, covers, or floating balls to exclude wildlife (see Mitigation Measures 4.1.5-1, 4.1.5-3 and 4.1.5-34). There is no evidence to support a belief that the general Project activities within the Project mine and process area would be so attractive or hazardous to wildlife that special exclusion measures, such as barbed-wire-topped chain-link fencing, would need to be installed around the entire perimeter to prevent wildlife access. To the contrary, as stated in the Draft EIS/EIR (see Section 4.1.5.3.2., page 4-53), Project activities are expected to cause wildlife intolerant of; noise, surface disturbance, and human activities, to avoid the Project mine and process area and neighboring areas over the life of the Project. The Draft EIS/EIR (in Section 4.1.5.4.) proposes several mitigation measures designed to supplement or improve the quality of wildlife habitat outside of the Project mine and process area. These measures would attract wildlife to areas outside of the Project mine and process area; including the construction of wildlife guzzler(s), protection and/or improvement of microphyll woodland habitat, and establishment of additional browse for deer.

The Draft EIS/EIR (in Section 4.1.5.3.4.) identifies each of the impacts which may occur to the deer which may move through the Project area. This same section of the Draft EIS/EIR also identifies a number of environmental protection measures which have been incorporated into the Project design to mitigate impacts on deer. Section 4.1.5.4. of the Draft EIS/EIR proposes that these and other stated mitigation measures (a total of 37) be implemented to mitigate the potential effects of the Project on deer, deer movements, and general biology.

Mitigation measures are included that establish reporting and compliance requirements designed to protect wildlife within the Project area. Mitigation measures are funded by the Project Applicant, and will be monitored by the agencies and, in many cases, a field contact representative (FCR). Mitigation Measure 4.1.5-1 states: "Applicant shall document; any deer or other wildlife mortalities observed within the Project mine and process area, shall monthly report such mortalities to the BLM and the CDFG, and shall work with the BLM and CDFG to implement additional or amended measures to reduce the mortalities. A field contact representative (FCR) shall be responsible for maintaining the records of perimeter fence inspections and repair, and shall have authority to direct the repair of damaged or destroyed fences. The FCR may be a project manager, company environmental coordinator, contract biologist, or other person identified as responsible by the Applicant." Mitigation Measure 4.1.5-3 establishes protective measures and reporting requirements

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

for areas in which cyanide is used. Mitigation Measure 4.1.5-30 states: "Applicant shall designate a field contact representative (FCR) who shall be responsible for overseeing compliance with protective stipulations for listed species. The FCR shall have authority to halt all activities that are in violation of the stipulations. The FCR shall have a copy of all appropriate stipulations when work is being conducted within the Project area. The FCR may be a project manager, company environmental coordinator, contract biologist, or other person identified as responsible by the Applicant. Applicant shall provide the name and contact information of the FCR to the BLM and applicable responsible agencies prior to construction."

Revisions to the Final EIS/EIR: None.

Response to Comment I013:109: See Response to Comment I012:042.

Response to Comment I013:110: See Response to Comment I012:042.

Response to Comment I013:111: See Response to Comment I008:013.

Response to Comment I013:112: (The Following Response is Also Applicable to Comments I013:113, I013:119, and I013:413.) Comments noted. However, the complete statement from the Reclamation Plan (Section 6, page 19, of Appendix A of the Draft EIS/EIR) reads:

> "The reclamation plan addresses all surface disturbance created by the Project. In general, the reclamation plan includes measures for: protecting wildlife and the public; minimizing erosion and mass failure potential; demolishing structures and neutralizing process components; regrading selected side and cut-and-fill slopes; revegetation; and, where feasible, providing the resumption of pre-mining land uses. The post-mining reclamation goals at the Project are to reclaim the site to a stable, functioning landscape unit/ecosystem to allow for similar land uses, including wildlife habitat and recreation, as currently exist, consistent with the applicable reclamation standards of the California Code of Regulations, Article 9, Title 14 (Reclamation Standards), and the surface management regulations under the general mining law found in the Code of Federal Regulations, Title 43, Group 3800. The final land forms of the mine site can not be reclaimed to the original contours. Thus the goal of the Plan is not to restore and revegetate to the original land form, but to a natural state that blends in with the existing undisturbed terrain."

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

"Religious training and use, [and] archeological education and research" are not goals of the Reclamation Plan.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:113: See Response to Comment I013:112.

Response to Comment I013:114: (The Following Response is Also Applicable to Comments I013:115, I013:116, I013:117, I013:129, I013:130, I013:132, I013:133, I013:134, I013:140, I013:143, I013:148, I013:151, I013:153, I013:154, I013:159, I013:167, I013:201, I013:202, I013:203, and J013:003.) The Imperial Project Reclamation Plan (Appendix A of the Draft EIS/EIR) states that it is based on the successful revegetation programs at the Picacho Mine and other mines, but that it will be designed for the environmental conditions specific to the Imperial Project:

> "The reclamation techniques and methods in this Reclamation Plan are based on successful revegetation programs at Glamis Imperial's sister mine, Chemgold's Picacho Mine, and other nearby mines in this area of the California Desert. Resultant revegetation treatments may be the same as have been used at Picacho and American Girl Mines, but will be designed for environmental conditions specific to the Project. These methods are appropriate to the dry climate and harsh environmental factors at the proposed mine site. These methods use topographic grading and the seeding or transplanting of local, native species to reestablish a productive ecosystem of plants and animals. As necessary, the seeding and revegetation plan may be refined over a period of time as further revegetation tests dictate. The Plan can be updated with BLM assistance, and updates will be reviewed and approved by BLM and Imperial County prior to final decommissioning and reclamation of the Project area." (Reclamation Plan, page 5)

Also, the Reclamation Plan (page 19) states that the Imperial Project revegetation treatments may be the same as have been used at Picacho and American Girl Mines, but will be designed for environmental conditions specific to the Project:

> "Glamis Imperial's sister company, Chemgold, has recently conducted revegetation testing programs at the nearby Picacho Mine and has information on reclamation testing at three (3) additional desert mining locations in California. The most recent monitoring reports for revegetation testing at the Picacho Mine are included as Attachment A and Attachment B.

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

This experience and information forms the basis for several procedures proposed here. The natural revegetation that has already occurred on previously disturbed mined areas in this desert region also served as a basis for determining the plant species and topographic features necessary for successful reclamation. The testing programs and subsequent observations have been used also as a basis for reclamation techniques, seed sources and plant species selection, and topographic modification. Resultant revegetation treatments may be the same as have been used at Picacho and American Girl Mines, but will be designed for environmental conditions specific to the Project. Techniques and alternatives for reclamation of altered terrain left after mining and ore processing are also discussed in this plan."

Because the Imperial Project reclamation and revegetation techniques are to be specifically adapted to the Imperial Project area, and the Imperial Project revegetation will have to meet or exceed the Imperial Project revegetation criteria to be successful, the specific information regarding these other reclamation and revegetation programs is not relevant to the Imperial Project Reclamation Plan, and need not be attached. In addition, the questions asked by the comment are also not relevant to the Imperial Project Draft EIS/EIR, nor to the Imperial Project itself.

Reports of monitoring of the reclamation efforts at the Picacho Mine for the fall of 1996 were contained in the Draft EIS/EIR as Attachment B to Appendix A (Reclamation Plan), and the results of the monitoring for the spring of 1995 were attached as Attachment A to Appendix A of the Draft EIS/EIR. The following table provides the results of this 1995 and 1996 monitoring of Picacho Mine, calculated as total percent vegetative cover (both annuals and perennials); and the density and diversity of perennial shrubs and herbaceous perennials only (see page 6 of Attachment A, and page 4 of Attachment B, of the Reclamation Plan [Appendix A of the Draft EIS/EIR]), not both annuals and perennials, as alleged in the comment. In both monitoring years the percent total vegetative cover met or exceeded the standard set by the Picacho Mine reclamation plan (33 percent of total vegetative cover of comparable transects [not one percent cover, unless the comparable transects have only three percent cover, as happened to be the case in 1996]). That the standard was met or exceeded was also stated in both Attachment A (page 11) and Attachment B (page 7) of the Reclamation Plan (Appendix A of the Draft EIS/EIR). In May 1998, Chemgold, Inc., the owner/operator of the Picacho Mine, was announced as the winner of the statewide 1997 California Mining Association Excellence in Reclamation Award for its revegetation of the Picacho Mine (Personal Communication, Tim Haldane, Glamis Imperial, October 5, 1998). The following table also compares the results of the 1995 and 1996 monitoring of the revegetation of the Picacho Mine to the revegetation standards required of other mines, and shows that the Picacho Mine revegetation

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

has met or exceeded these standards as well (except for the Oro Cruz Oro Cruz Operation of the American Girl Mine, which standard is based upon both the perennial and annual vegetation density and cover). This is also stated in Attachment A (page 11) of the Reclamation Plan (Appendix A of the Draft EIS/EIR).

Revegetation, Monitoring and Release Criteria for Locatable Mineral Projects in the California Desert Conservation Area

Project/Reference	Revegetation Criteria		
	Density	Diversity	Cover
Imperial Project	30% of perennial species	33% of perennial species	Not proposed
Castle Mountain Mine	6% of perennial species	4% of perennial species	Not required
	21% of perennial species	15% of perennial species	Not required
Rand Project	21% of perennial shrubs and herbaceous vegetation	15% of perennial shrubs and herbaceous vegetation	35% of perennial shrubs and herbaceous vegetation
Oro Cruz Operation of the American Girl Mine	50% of similar vegetation	Not required	50% of similar vegetation
Briggs Project	20% of perennial and herbaceous vegetation	15% of perennial and herbaceous vegetation	15% of perennial and herbaceous vegetation
Soledad Mountain Project	20% of perennial vegetation	30% of perennial vegetation	35% of perennial vegetation
Mesquite Mine	Not required	Not required	Not required
Picacho Mine (standard)	Not required	Not required	33% of vegetative cover
Picacho Mine (actual 1995)	160/430=**37%**	9.2/8.5=**108%**	20%/12%=**167%** (pass)
Picacho Mine (actual 1996)	74/195=**38%**	0.9/1.5=**58%**	0.3%/0.9%=**33%** (pass)

A report of the monitoring for the fall of 1997, dated February 1998, has been filed with the Imperial County Planning and Building Department and is available for public review (Personal

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

Communication, Tim Haldane, Glamis Imperial, October 5, 1998). The Imperial Project Reclamation Plan was revised in August 1997, and included all of the Picacho Mine revegetation survey reports that were available at that time.

Chemgold, Inc. is a sister company to Glamis Imperial (the applicant for the Imperial Project), and has performed revegetation success monitoring at its Picacho Mine in accordance with the requirements of the approved Picacho Mine Reclamation Plan. This monitoring has been conducted specifically for the Picacho Mine reclamation program, and is not intended to be, nor does it need to be, coordinated with the separate baseline monitoring which has been conducted for the Imperial Project, nor is it necessary for these separate projects to maintain the same monitoring schedules.

The direct planting of ironwood seeds was a reclamation technique which was tried as a test at the Picacho Mine which, as the comment notes, did not succeed. These areas were then planted with ironwood seedlings, which succeeded. No direct seeding of ironwood seeds is proposed for the Imperial Project.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:115: See Response to Comment I013:114.

Response to Comment I013:116: See Response to Comment I013:114.

Response to Comment I013:117: See Response to Comment I013:114.

Response to Comment I013:118: Comment noted. See Also Response to Comment I013:004.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:119: See Response to Comment I013:112.

Response to Comment I013:120: See Response to Comment F001:003.

Response to Comment I013:121: See Response to Comment F001:003.

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

Response to Comment I013:122: (The Following Response is Also Applicable to Comments E002:012, I013:123, I013:124, I013:290, I013:301, and J001:004.) (See Also Response to Comment E002:024.) The Reclamation Plan (page 56) states that "The species listed below will potentially be in the seed mix, either as banked seeds or as species which have typically germinated or can be expected from seed mixture [*sic*]. Some naturalized exotic species that are now part of the local flora will also be collected in the seed mix." The species of mustard (*Brassica tournefortii*) listed in the seed mix is one such naturalized exotic species which may be collected in the seed mix, since it is an invasive weed species that currently inhabits washes in the Project area. It is not to be added to the seed mix, but it is also not possible to remove the seeds of this species from the seed mix before it is sown. However, as also stated in the Reclamation Plan (page 59), "There are very few weeds or undesirable seeds in the collections, provided the seeds are collected from soils in undisturbed native vegetation."

Mitigation Measure 4.1.5-20 in the Draft EIS/EIR addresses exotic plant control measures, including the mustard and other noxious weeds which may be collected as seed and then used in the revegetation program.

To ensure that the correct species are targeted for removal and the details of the programs are specified, Mitigation Measure 4.1.5-20 has been amended to state that those plant species that are on the noxious weed list for the El Centro Field Office would be targeted and that the details (*e.g.* targeted species, eradication methods, timing) regarding the weed control program would be subject to approval from BLM. The BLM will consult with the USFWS regarding this and other aspects of the Reclamation Plan, but does not believe it appropriate to add the USFWS to the parties for which approval of the Reclamation Plan and Reclamation Plan conditions is required.

The comment misinterprets the discussion of the potential impacts to vegetation and plant habitat quoted from Section 4.1.5.2. (page 4-48) of the Draft EIS/EIR by not including the final two sentences. The full quoted section reads:

> "Seasonally moist areas within the remnant East Pit (or West Pit, if mining is terminated prior to the commencement of backfilling) could result in small areas (estimated at less than 1 to 2 acres of pit bottom) in which salt cedar growth might be supported (Personal Communication, Samuel A. Bamberg, Ph.D., Bamberg and Associates, April 25, 1996). The Proposed Action includes measures to actively control introduced plant species during and

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

following active operations. The resulting impacts would be below the level of significance." (*emphasis added*)

Mitigation Measure 4.1.5-20 is one of these "measures;" Mitigation Measures 4.1.5-5 (partial backfill of the East Pit), 4.1.5-8 (composition of the seed mix for deer browse in the central wash), 4.1.5-10 (composition of the seed mix for deer browse in the east pit east tributary wash), 4.1.5-21 (monitoring for noxious weeds prior to bond release), 4.1.5-25 (repair of water pipeline leaks to avoid tamarisk), 4.1.5-48 (partial backfill of the West Pit if mining is terminated early), and 4.1.5-49 ("rubblizing" the bottom of any pit left open to minimize the potential for the formation of standing water) are others.

The specific methods for eliminating factors conducive to tamarisk growth, and the amount of the activities portion of the reclamation bond that would be retained to fund a tamarisk eradication program, would be determined by the BLM and Imperial County at the time that tamarisk is determined to be a potential problem. The specific methods for eliminating conditions conducive to tamarisk growth (e.g., monitoring, mechanical removal of seedlings, repairing water leak sources, "rubblizing" areas of standing water, etc.) and the cost for implementing these methods would be dependent upon the specific location(s) and density(ies) of the infestation(s). However, the methods, either individually or collectively, would be expected to be effective in preventing or controlling any tamarisk infestation.

Revisions to the Final EIS/EIR: Mitigation Measure 4.1.5-20 would be amended to read:

"Applicant shall implement weed control measures such that plant species that are on the noxious weed list for the El Centro ~~Resource Area~~Field Office would not become established within the Project Area. The details (*e.g.* targeted species, eradication methods, timing) regarding the weed control program would be subject to approval from BLM and USFWS. Manual or mechanical means of control shall require approval by the BLM. The weed control measures shall be implemented within six (6) months of when noxious weeds are visually identified within the Project area and shall continue over the life of the Project. Tamarisk species shall be actively controlled throughout the life of the Project by eradication of any seedlings or growth observed. If tamarisk is determined to be a continuing problem after the completion of reclamation, a portion of the reclamation bond in an amount determined appropriate by the BLM and Imperial County shall be retained to fund an eradication program to eliminate factor(s) conducive to tamarisk growth (e.g., moist areas). Potential

measures that may be incorporated into a long-term tamarisk eradication program include monitoring, mechanical removal of seedlings, repair or removal of standing water sources, and/or rubblizing or backfilling areas of standing water."

Response to Comment I013:123: See Response to Comment I013:122.

Response to Comment I013:124: (The Following Response is Also Applicable to Comments I013:125 and I013:133.) (See Also Responses to Comments E002:017 and I013:122.) The Reclamation Plan (Appendix A to the Draft EIS/EIR, page 61) recognizes that transplanted seedlings will need to be protected from herbivory, and specifically states that "Seedlings will be protected with a wire mesh cage if less than 12 inches tall. The wire mesh will be small enough to discourage predation by herbivores." Attachment B to the Reclamation Plan (Appendix A to the Draft EIS/EIR, page 7) states that for the ironwood seedlings transplanted for the Picacho Mine revegetation, "There was little evidence that seedlings were being eaten or browsed by rodents or herbivores." It is not practical to protect plants which grow from seed from herbivory; to the extent that such grazing decreases plant density or diversity below the success criteria, the Applicant will be obligated to continue revegetation efforts until the success criteria is met.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:125: See Response to Comment I013:124.

Response to Comment I013:126: See Response to Comment E002:022.

Response to Comment I013:127: See Response to Comment E002:017.

Response to Comment I013:128: See Response to Comment E002:017.

Response to Comment I013:129: (The Following Response is Also Applicable to Comments I013:130, I013:151, and I013:167.) (See also Responses to Comments E002:017 and I013:114.) As stated in Section 2.1.11.2.5. (page 2-42) of the Draft EIS/EIR, after the completion of leaching, the leached ore on the leach pad would be rinsed with fresh water to neutralize and reduce cyanide levels to below those specified by the CRWQCB (this process would also result in a reduction of any residual nutrient values). This process may require 12 months or more of rinsing, after which the replanting and revegetation efforts would begin (see Table 2.5 of the Draft EIS/EIR). Near-surface

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

residual moisture in the leached and neutralized heap would be expected to quickly return to ambient levels due to the high evaporation and low rainfall rates.

As stated in Section 2.1.11.3.4 (page 2-44) of the Draft EIS/EIR, revegetation experience at the Picacho Mine has demonstrated that neutralized leached ore on the heap is excellent in-place growth media.

Revision to the Final EIS/EIR: None.

Response to Comment I013:130: See Responses to Comments I013:114 and I013:129.

Response to Comment I013:131: See Response to Comment E002:017.

Response to Comment I013:132: See Responses to Comments E002:017 and I013:114.

Response to Comment I013:133: See Responses to Comments I013:114 and I013:124.

Response to Comment I013:134: See Response to Comment I013:114.

Response to Comment I013:135: See Response to Comment E002:020.

Response to Comment I013:136: See Response to Comment E002:020.

Response to Comment I013:137: See Response to Comment E002:020.

Response to Comment I013:138: See Response to Comment E002:022.

Response to Comment I013:139: See Response to Comment E002:022.

Response to Comment I013:140: See Response to Comment I013:114.

Response to Comment I013:141: Comment noted. The BLM and Imperial County are unaware of any mitigation measures that are inconsistent with the Technical Appendices which are not adequately documented.

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

Revisions to the Final EIS/EIR: None.

Response to Comment I013:142: The comment is noted. However, all of the references listed in the principal botanical sections of the Draft EIS/EIR (Section 3.5.5. and Section 4.1.5.2.) are contained in Chapter 9 ("References") of the Draft EIS/EIR, and each of the related technical botanical appendices (Appendices F, G, and H of the Draft EIS/EIR) contain their own citations, list of references, or list of cited literature. When a statement is not referenced it is based upon the professional opinion of the authors, who are listed in Chapter 8 ("List of Preparers") of the Draft EIS/EIR.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:143: See Responses to Comments I005:012 and I013:114.

Response to Comment I013:144: (See Also Response to Comment I005:012.) The Wash Vegetation and Habitat Survey was conducted to document the conditions in the washes as they existed following a period of drought during a winter survey period, and were not intended to document the vegetation "potential" of the area. The first two paragraphs on page 3 of Appendix G clearly state that conditions at the time of the winter survey were not indicative of the highest cover and diversity possible, and contrasted the existing conditions to those observed during the 1995 survey which followed several years of optimal weather conditions. As such, field surveys were conducted following periods that provided both harsh and optimal conditions for vegetation in the Project area and allowed for observations under both conditions.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:145: See Response to Comment E002:017.

Response to Comment I013:146: See Responses to Comments E002:017 and I002:010.

Response to Comment I013:147: See Response to Comment I005:012.

Response to Comment I013:148: See Response to Comment I013:114.

Response to Comment I013:149: Comment noted. See Also Response to Comment I013:004.

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

Revisions to the Final EIS/EIR: None.

Response to Comment I013:150: Comment noted. The Final EIS/EIR will note that Ocotillo should be listed as a shrub in the tables found on page 29 and page 58 of the Reclamation Plan (Appendix A of the Draft EIS/EIR). This is not a significant change to the Reclamation Plan.

Revisions to the Final EIS/EIR: The Final EIS/EIR will note that Ocotillo should be listed as a shrub in the tables found on page 29 and page 58 of the Reclamation Plan (Appendix A of the Draft EIS/EIR).

Response to Comment I013:151: See Responses to Comments E002:017, I013:114 and I013:129.

Response to Comment I013:152: (The Following Response is Also Applicable to Comments I013:153, I013:154, I013:155, I013:161, I013:165, I013:166, I013:196, and I013:197.) The Castle Mountain Mine is located in the Mojave Desert at elevations ranging from 4,100 to 5,100 feet. Annual rainfall is eight to ten inches, and vegetation communities at the mine site (Joshua tree woodland, Mojave creosote bush scrub, and blackbush scrub) are different than the vegetation communities found in the Imperial Project area (located in the Colorado Desert at elevations of from 760 to 925 feet with rainfall of less than 4 inches). Reclamation techniques must reflect the individual characteristics of the area to be reclaimed. The Imperial Project Reclamation Plan builds upon the experiences of the three mines (Picacho Mine, American Girl Mine, and Mesquite Mine) which are each located within approximately ten miles of the Imperial Project in the same geographic province. Also, the Reclamation Plan (page 19) states that the Imperial Project revegetation treatments may be the same as have been used at Picacho and American Girl Mines, but will be designed for environmental conditions specific to the Project. Reclamation costs for the Imperial Project are calculated specifically for the Imperial Project (see also Response to Comment I002:010).

Revisions to the Final EIS/EIR: None.

Response to Comment I013:153: See Responses to Comments E002:024, I013:114 and I013:152.

Response to Comment I013:154: See Responses to Comments E002:017, I013:114 and I013:152.

Response to Comment I013:155: See Responses to Comments E002:017 and I013:152.

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

Response to Comment I013:156: See Response to Comment E002:017.

Response to Comment I013:157: See Response to Comment E002:017.

Response to Comment I013:158: See Response to Comment E002:017.

Response to Comment I013:159: See Responses to Comments E002:017 and I013:114.

Response to Comment I013:160: See Responses to Comments E002:020 and E002:022.

Response to Comment I013:161: See Responses to Comments E002:020, E002:022 and I013:152.

Response to Comment I013:162: Comment noted.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:163: (The Following Response is Also Applicable to Comments I013:164, I013:171, I013:294, I013:302, I013:303, I024:014. I027:8, J007:006, J007:013, J012:009, J029:003, J029:006 and M001:007.) Comment regarding the desire for independent review and a common revegetation and monitoring review committee noted. However, both the BLM and the ICPBD, under 40 CFR 3809 (Mining Claims Under the General Mining Laws; Surface Management) and Public Resources Code Chapter 9 (Surface Mining and Reclamation Act of 1975), respectively, have both the right and responsibility to inspect the mining operations. The Draft EIS/EIR also contains many proposed conditions of Project approval which would require the Applicant to regularly and fully report the results of its compliance with the conditions of approval. Both BLM and ICPBD are also required, under the regulations implementing the National Environmental Policy Act (40 CFR 1505.2(c)) and the California Environmental Quality Act itself (Public Resources Code Section 21081.6), respectively, to prepare and implement, at the time of Project approval, monitoring and reporting programs to ensure that the mitigation measures which have been adopted into their respective Project approvals to mitigate environmental effects are implemented. It is these requirements on both the Applicant and the agencies which ensure the independent, unbiased review and monitoring of the mining operations.

The Revegetation and Monitoring Review Committee is specifically intended to perform a very different function than the FCR. As presented in Mitigation Measure 4.1.5-51 (page 4-77):

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

> "A Revegetation and Monitoring Review Committee shall be formed to serve in an advisory capacity to the BLM and Imperial County. The committee shall review the annual vegetation monitoring reports filed by the Applicant for the purpose of interpreting the information contained in the reports, advising the Applicant of actions it might take to improve the success of its revegetation efforts, and advising the BLM and Imperial County as to adjustments which should be made to the revegetation success standards. The composition of the committee shall be proposed by the Applicant and approved by the BLM and Imperial County."

Thus, this Committee is to provide advice and assistance to both the agencies (BLM and Imperial County) and the Applicant. It is not intended to serve in any type of regulatory capacity. The members are proposed by the Applicant, but must be approved by the BLM and Imperial County. Neither agency believes it necessary to further specify the composition, term, or tasks of this Committee. Also, it is noted that the Castle Mountain Mine is located in the Mojave Desert, where the vegetation communities are quite different than the vegetation communities found in the Imperial Project area, which means that the reclamation techniques will differ between the two areas (see Response to Comment E002:003).

In contrast, the "field contact representative" (FCR), as defined in Mitigation Measures 4.1.5-1, 4.1.5-4, 4.1.5-30, 4.1.5-32, 4.1.5-36, and 4.1.5-40, is clearly intended to be the Applicant's representative with specific responsibilities to help the Applicant ensure the effective implementation of the mitigation measures for biological mitigation measures and provide a focus for agency contact with the Applicant on these issues. The FCR can be a project manager, company environmental coordinator, contract biologist, or other person identified as responsible by the Applicant, and shall be specifically identified to the BLM and other applicable responsible agencies. The FCR position is not intended, nor should it become, and agency or third-party position.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:164: See Response to Comment I013:163.

Response to Comment I013:165: See Responses to Comments E002:003 and I013:152.

Response to Comment I013:166: See Responses to Comments E002:003 and I013:152.

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

Response to Comment I013:167: See Responses to Comments I013:144 and I013:129.

Response to Comment I013:168: (The Following Response is Also Applicable to Comments I013:169, I013:198, I013:295, I013:296, I014:009, I019:003, I019:004, I024:017 and J011:002.) (See Also Response to Comment I010:009.) Section 4.1.5.3.1. (pages 4-50 through 4-52) of the Draft EIS/EIR discusses that Project activities would result in the unavoidable loss of approximately 87 acres of microphyll woodland habitat from the wash systems within the Project mine and process area over the active life of the Project. This is approximately 63 percent of the approximately 139 acres of microphyll woodland habitat identified within the Project mine and process area (see Section 3.5.6. [page 3-57] of the Draft EIS/EIR). A total of approximately one-half of this disturbed microphyll woodland habitat would be reestablished through reclamation, but the remaining one-half of the microphyll woodland habitat within the Project mine and process area would be lost and not reestablished through Project reclamation. Mitigation Measures 4.1.5-8, 4.1.5-10, and 4.1.5-11 discuss the methods proposed to enhance the carrying capacity of the adjacent, undisturbed microphyll woodland habitat and monitor the health of this habitat to partially mitigate for this loss.

As stated in Section 4.1.5.3.1. (page 4-51 and 4-52) of the Draft EIS/EIR, "Measures are incorporated into the Project design to minimize the area of microphyll woodland habitat disturbed by the Project to 87 acres and to mitigate the adverse effects of the Project on microphyll woodland habitat . . . . Additional Project measures intended to compensate for the loss of microphyll woodland habitat from the Project include providing for the acquisition of off-site private lands containing microphyll woodland habitat at a ratio of 3:1 for all of the acres of microphyll woodland habitat disturbed within the Project mine and process area, reclamation of previously disturbed public lands not associated with the Proposed Action to be identified and approved by the BLM (see Section 4.1.5.4.)" Mitigation Measures 4.1.5-11, 4.1.5-13, 4.1.5-15, and 4.1.5-26 require offsite compensation for microphyll woodland habitat which is disturbed and not reclaimed at a ratio of 3:1 (three off-site acres protected for each one acre not reclaimed). The 3:1 ratio conforms to the requirements of the draft Stream Alteration Agreement with the California Department of Fish and Game, which is Mitigation Measure 4.1.5-26 (page 4-70 and 4-71) in the Draft EIS/EIR. Mitigation Measure 4.1.5-26(1) (page 4-70) in the Draft EIS/EIR specifically states that "The location of the [offsite] mitigation area shall be subject to review and approval of the Department [of Fish and Game]. The mitigation lands shall be deeded to the Department." As stated in Section 4.1.5.3.1. (page 4-52) of the Draft EIS/EIR, "Compensation lands that are in close proximity to the Project mine and process area, of equal or better habitat quality, and of similar vegetation community, elevation, hydrology, wind patterns, and substrates, would provide the greatest benefit."

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

Section 4.1.5.5. (pages 4-77 and 4-78) of the Draft EIS/EIR concurs with the comment that the Project, even with the implementation of all of the proposed mitigation measures, would result in impacts in the Project area to microphyll woodland habitat and the species which depend upon this habitat: "The Proposed Action would result in the unavoidable loss of approximately 87 acres of tree/shrub vegetation habitat (desert wash microphyll woodland habitat) and approximately 1,215 acres of shrub/scrub vegetation habitat (desert succulent scrub habitat) within the Project mine and process area over the life of the Project . . . . Approximately one-half (½) of the disturbed microphyll woodland habitat would be lost and not reclaimed at the completion of reclamation . . . . Resident and non-resident wildlife species dependent on this habitat would be subject to displacement and increased mortality." This impact was determined to be below the level of significance under NEPA in the Draft EIS/EIR. However, because of the mandatory findings of significance prescribed by CEQA guidelines, the impact of the loss this habitat on desert tortoise, Gila woodpecker, and peregrine falcon is considered significant under CEQA (See Section 1). This determination is reflected in the Final EIS/EIR.

As stated in Section 4.1.5.3.1. (page 4-51) of the Draft EIS/EIR,

> "Based on the work done at the Picacho Mine, it is apparent that microphyll woodland vegetation can be reestablished (Bamberg and Hanne 1997; see also Attachment B to Appendix A, Reclamation Plan). The estimated time for recovery of a microphyll woodland, that is, for establishment of trees and shrubs to a density approaching the natural wash vegetation, is estimated at five (5) years; for recovery to a condition approaching maturity is estimated at twenty (20) years. Plant succession and changes in structure would continue for approximately 50 years for trees (up to 30 feet). The expected survival of ironwood seedling transplants after one (1) year, based on Picacho experience (December 1995 to December 1996), is approximately 80 percent (Bamberg and Hanne 1997). Studies are underway on ironwood propagation at the Picacho Mine working in conjunction with the Desert Legume Program at the University of Arizona. Other typical wash plant species (palo verde, brittle bush, saltbush, sweetbush, desert mallow, wire lettuce, and annual grasses and forbs) have been successfully grown from seed collected in washes (Bamberg 1997b; see Appendix G)."

The Draft EIS/EIR concludes, given the implementation and success of the measures proposed as a part of the Project or required by regulation, that the impacts of the Project on microphyll woodland habitat within the Project mine and process area would not exceed the level of significance

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

established by the significance criteria presented in Section 4.1.5.1. (page 4-46) of the Draft EIS/EIR ["a project would normally be considered to have a significant effect on biological resources if it could: Substantially affect a rare or endangered species of animal or plant or the habitat of the species; Interfere substantially with the movement of any resident or migratory fish or wildlife species; or Substantially diminish habitat for fish, wildlife, or plants."] Thus, these unavoidable, residual impacts on microphyll woodland habitat within the Project mine and process area would be below the level of significance. However, as discussed in the Recirculated Supplement to the Draft EIS/EIR (March 1999), because of the mandatory findings of significance prescribed by CEQA guidelines, the impact of the loss of this habitat on the listed desert tortoise, Gila woodpecker, and peregrine falcon is considered significant under CEQA (See Section 1, above). This determination has been incorporated into the Final EIS/EIR.

The Draft EIS/EIR (page 5-14) estimates that there is 7,680-15,360 acres of microphyll woodland habitat in the cumulative impact assessment area. This section also states that aerial photographs and limited ground-truthing indicate that essentially all of the wash habitat in the cumulative impact assessment area (see Figure 5.2) is similar to the wash habitat and microphyll woodland that braids through the Project area. In addition, Section 5.3.3. of the Draft EIS/EIR states that the NECDMP (now known as the NECO Plan) indicates that this same cumulative impact assessment area contains approximately 40 to 50 percent "desert dry wash woodland."

The U.S. Fish and Wildlife Service provided comments on the Draft EIS/EIR (Comment Letter E002) that the reclamation of the permanent diversion channels through transplantings must be conducted at higher densities than existing vegetation to account for mortality (Comment E002:020), and commented regarding post-reclamation monitoring of revegetation success of microphyllus vegetation (Comment E002:023). However, the U.S. Fish and Wildlife Service did not elect to provide comments on the issue of offsite compensation ratios for microphyll woodland habitat. Therefore, one can assume that the U.S. Fish and Wildlife Service does not disagree with the 3:1 compensation ratio.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:169: See Responses to Comments E002:020 and I013:168.

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

Response to Comment I013:170: Comment noted. Please refer to Response to General Comment 002 which identifies the locations of methodologies and thresholds of significance which were used in the preparation of the Draft EIS/EIR.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:171: See Response to Comment I013:163.

Response to Comment I013:172: See Response to Comment I002:010.

Response to Comment I013:173: See Response to Comment I002:010.

Response to Comment I013:174: See Response to Comment I002:010.

Response to Comment I013:175: See Response to Comment I002:010.

Response to Comment I013:176: See Response to Comment I002:010.

Response to Comment I013:177: See Response to Comment I002:010.

Response to Comment I013:178: See Response to Comment I002:010.

Response to Comment I013:179: See Response to Comment I002:010.

Response to Comment I013:180: See Response to Comment I002:010.

Response to Comment I013:181: See Response to Comment I002:010.

Response to Comment I013:182: See Response to Comment I002:010.

Response to Comment I013:183: See Response to Comment I002:010.

Response to Comment I013:184: See Response to Comment I002:010.

Response to Comment I013:185: See Response to Comment I002:010.

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

Response to Comment I013:186: See Response to Comment I002:010.

Response to Comment I013:187: See Response to Comment I002:010.

Response to Comment I013:188: See Response to Comment I002:010.

Response to Comment I013:189: See Response to Comment I002:010.

Response to Comment I013:190: See Response to Comment I002:010.

Response to Comment I013:191: See Response to Comment I002:010.

Response to Comment I013:192: See Response to Comment I002:010.

Response to Comment I013:193: See Response to Comment I002:010.

Response to Comment I013:194: See Response to Comment I002:010.

Response to Comment I013:195: See Response to Comment I002:010.

Response to Comment I013:196: See Responses to Comments I002:010 and I013:152.

Response to Comment I013:197: See Responses to Comments I002:010, I027:002 and I013:152.

Response to Comment I013:198: (The Following Response is Also Applicable to Comments I013:202, I013:300, I024:015, I024:016, and J017:004.) (See Also Response to Comment I013:168.) As stated in Section 4.1.5.3.1. (page 4-53) of the Draft EIS/EIR, "Several small, isolated, ephemeral water seeps located northwest to southwest of the Project ground water well field area, in the vicinity of or adjacent to the Algodones Sand Dunes, likely provide seasonal water and habitat for wildlife which is otherwise limited in this region. As indicated in Section 3.3.1., because Project ground water production would be from a different aquifer than these seeps, it would not impact the shallow source of the seeps, and would not impact biological resources which may be supported by these seeps."Also, as stated in Section 4.1.5.3.2. (page 4-54) of the Draft EIS/EIR, "The natural tinajas and wildlife guzzlers installed to provide artificial sources of water would not be affected by the ground

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

water withdrawal at the Project ground water well field area, and the wildlife supported by these water sources would not be affected."

The purpose of the installation of guzzlers is to provide for more intensive use of the existing habitat by deer and other wildlife during or following Project operations. The Draft EIS/EIR (Section 3.5.6.1.) indicates that these artificial water sources likely have a substantial influence on the movement of deer through the region. The installation of guzzlers as part of Project mitigation is discussed in Section 4.1.5.4. of the Draft EIS/EIR; specifically, Mitigation Measures 4.1.5-9, 4.1.5-14, and 4.1.5-26 contain requirements for the construction of big game (and/or small game) guzzlers during Project construction and following reclamation. The mitigation measures require that the Project Applicant construct and maintain guzzlers in a design and location acceptable to the BLM and the CDFG. The Stream Alteration Agreement (addressed in Mitigation Measure 4.1.5-26) includes the purchase of cameras and night vision equipment to allow the CDFG, an outside agency, to monitor the effects of guzzlers on wildlife.

As stated in Section 3.5.6.2. (page 3-80) of the Draft EIS/EIR:

> "The CDFG has prepared a deer herd management plan for the deer population inhabiting southeastern San Bernardino, Riverside, and Imperial Counties (Celentano and Garcia 1984). Deer densities within the general area were reported to average approximately 0.2 animals per square mile (Celentano and Garcia 1984 after McLean 1940). However, because of low density and scattered distribution, an accurate estimation of the desert deer herd population is difficult. CDFG records of hunter success in the area have trended upwards since the 1940s, suggesting the deer herd density in the area may be increasing (see Section 3.9.2.3)."

As stated in Section 3.5.6.2. (page 3-77 and following) of the Draft EIS/EIR:

> ". . . a CDFG-managed "guzzler" constructed to provide a water source for deer is located off of Hyduke Road, approximately two (2) miles south-southwest of the Project mine and process area. This water source is believed to contribute to the observed east-west movement of deer through the Project area, at approximate right angles to the washes. After the biological field surveys, two (2) new "guzzlers" were reported to have been constructed by the CDFG/Imperial County Fish and Game Commission (ICFGC) approximately 0.8 miles and 2.5 miles, respectively, from the eastern boundary of the Project mine and process area in September 1995 (Personal Communication, Ted Rado 1995; Rister 1996). Approximate

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

locations of these three "guzzlers" with respect to the Project mine and process area are shown on Figure 3.14."

As stated in Mitigation Measure 4.1.5-8, "Vegetation selected for enhanced deer browse establishment shall be comprised of species known to occur in the Project area . . . . The composition of the seed mix and the design of the vegetation enhancement measures shall be submitted to the CDFG for approval prior to implementation."

Revisions to the Final EIS/EIR: None.

Response to Comment I013:199: (The Following Response is Also Applicable to Comment I002:011.) The suggested alternative is the Complete Backfill Alternative, which is described in Section 2.2.3. (page 2-62 and 2-63) of the Draft EIS/EIR and for which the environmental effects are already analyzed in Section 4.4. (pages 4-146 through 4-154) of the Draft EIS/EIR.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:200: Section 2.1.12. (pages 2-49 and 2-50) of the Draft EIS/EIR are not "mitigation measures," but are specifically identified as environmental impact reduction measures to distinguish these Applicant-proposed measures from those developed and presented in Chapter 4 of the Draft EIS/EIR specifically to mitigate significant impacts. To the extent that these environmental impact reduction measures were judged appropriate and would mitigate a potentially significant effect, each was specifically identified in the appropriate resource sections as a "measure incorporated by Project design which avoid or reduce potentially significant impacts." Monitoring requirement were incorporated, as appropriate.

Revision to the Final EIS/EIR: None.

Response to Comment I013:201: See Responses to Comments E002:017 and I013:144.

Response to Comment I013:202: See Responses to Comments I013:114 and I013:198.

Response to Comment I013:203: See Responses to Comments E002:022 and I013:114.

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

Response to Comment I013:204: Comments noted. See also Response to Comment I012:042. The impacts of the West Pit Alternative are discussed in Section 4.2. (pages 4-127 through 4-136) of the Draft EIS/EIR. The impacts of the East Pit Alternative are discussed in Section 4.3. (pages 4-136 through 4-146) of the Draft EIS/EIR.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:205: Comments noted. See also Response to Comment I010:002. The impacts of the Complete Pit Backfill Alternative are discussed in Section 4.4. (pages 4-146 through 4-155) of the Draft EIS/EIR.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:206: See Responses to Comments E001:003, I002:012, I010:003, and I010:006.

Response to Comment I013:207: See Responses to Comments I002:012 and I013:204.

Response to Comment I013:208: The comment misquotes the Draft EIS/EIR. The full quote from Section 4.1.1.2. (page 4-4) of the Draft EIS/EIR follows:

> "Some mineralization would also be left in some locations at the bottom of the East Pit following the completion of mining under the Proposed Action. Since the East Pit would only be partially backfilled, if necessary, to the level needed to raise the floor to the predicted level of any pit lake, the costs of mining this mineralization below the current limits of the Proposed Action under some future Plan of Operations would increase only slightly over that of leaving the East Pit completely open. This decrease in the economic value of the mineralization in the East Pit from partially backfilling would not be significant."

Revisions to the Final EIS/EIR: None.

Response to Comment I013:209: See Response to Comment I010:015.

Response to Comment I013:210: (See Also Response to Comment I012:042.) Section 2.3.1.3. (pages 2-66 through 2-68) of the Draft EIS/EIR analyzed alternative mine facility locations outside

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

the Project mine and process area and concluded that these were not economically and environmentally feasible.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:211: See Response to Comment I010:002.

Response to Comment I013:212: See Responses to Comments I010:002 and I013:003.

Response to Comment I013:213: See Response to Comment I013:003.

Response to Comment I013:214: See Response to Comment I013:003.

Response to Comment I013:215: See Response to Comment I013:003.

Response to Comment I013:216: (The Following Response is Also Applicable to Comment I013:217.) (See Also Response to Comment I013:003.) The comment regarding the BLM forestry program is noted.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:217: See Response to Comment I013:216.

Response to Comment I013:218: See Response to Comment I010:006.

Response to Comment I013:219: See Response to Comment I013:002.

Response to Comment I013:220: The statement of BLM's Preferred Alternative in the Draft EIS/EIR is consistent with NEPA [40 CFR 1502.14(e)], and was not intended to diminish the importance of the public involvement process. Chapter V, Section B.2.b. of the BLM NEPA Handbook directs that "The manager responsible for preparing the EIS should select the BLM's preferred alternative. ... For externally initiated proposals, ... the BLM selects its preferred alternative unless another law prohibits such an expression. ... The selection of the preferred alternative should be based on the environmental analysis as well as consideration of other factors which influence the decision or are required under another statutory authority."

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

BLM has determined that in consideration of the cultural and visual resources present within and surrounding the project area, the Preferred Alternative is the No Action Alternative. This determination was based on a number of factors, including comments from the interested public and the Advisory Council on Historic Preservation, and the recent Solicitors's Opinion attached as Appendix T.

Revisions to the Final EIS/EIR: The Final EIS/EIR document summary and Section 2.2.5, page 2-63 of the Draft EIS/EIR, discussion of the Preferred Alternative for the Project has been revised to reflect selection of the No Action Alternative as the BLM Preferred Alternative.

Response to Comment I013:221: See Response to Comment I013:220.

Response to Comment I013:222: See Response to Comment I013:220.

Response to Comment I013:223: See Response to Comment I013:220.

Response to Comment I013:224: See Response to Comment I010:015.

Response to Comment I013:225: (See Also Responses to Comments E001:003, I010:015, and I012:042.) The full discussion of the "Alternative Mine Location" section (Section 2.3.1.1., page 2-65, of the Draft EIS/EIR) makes clear that this "alternative" was eliminated from detailed consideration because it failed to meet any of the basic objectives of the Proposed Action:

> "One suggested alternative was to construct and operate a mine at an entirely different location than the Project Area. Such an alternative would clearly eliminate all of the residual significant adverse effects of the Proposed Action, although the significant adverse environmental effects of any such alternative project may be greater or lesser than those of the Proposed Action. In the absence of an actual location to consider, any attempt to evaluate the environmental impacts of this suggested alternative would be speculative and not add substantially to the environmental analysis presented in this EIS/EIR. However, such an alternative would also clearly fail to meet any of the basic objectives of the Proposed Action (to profitably recover as much of the precious metals within the Project mine and process area as possible, in conformance with the 1872 Mining Act), and is therefore eliminated from detailed consideration."

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

Revisions to the Final EIS/EIR: None.

Response to Comment I013:226: (See Also Response to Comment I010:015.) The Environmental Impact Report/Environmental Impact Statement for the Soledad Mountain Project (Section 2.3.3.4.1., pages 113 through 115) also eliminated the alternative mine location from detailed consideration.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:227: (See Also Responses to Comments E001:002, I002:002, I010:002, I010:015, I013:002, and I013:225.) Section 2.2. (page 2-51 through 2-52) of the Draft EIS/EIR discusses how both NEPA and CEQA require alternatives to be feasible. Both NEPA and CEQA recognize that "feasible" includes *both* technical and economic aspects. For example, Section 15126.6(f)(1) of the CEQA Guidelines state that "Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (or the site is already owned by the proponent)."

Revisions to the Final EIS/EIR: None.

Response to Comment I013:228: See Response to Comment I013:227.

Response to Comment I013:229: See Response to Comment I013:0227.

Response to Comment I013:230: The referenced statement ("Minimum ore grades (measured in ounces of gold per ton of ore) and quantities of ore are necessary to make this method economically feasible.") is generic, as all gold ore grades are measured in "ounces per ton." The sentences which follow in the Draft EIS/EIR summarize the findings of the analysis conducted by Smith (1997) regarding underground mining. This analysis found that, in order to be technically feasible for underground mining, a minimum ore grade and minimum ore tonnage must be present. The minimum ore grade for any underground mine surveyed by Smith (1997) was 0.035 ounces per ton. As stated in the Section 2.3.2.1. (page 2-73) of the Draft EIS/EIR, Smith (1997) "concluded that at a gold price of $400.00 per ounce, there are no blocks of gold ore within the Project deposits which

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

would meet either the minimum grade or tonnage necessary to make underground mining economically feasible."

Revisions to the Final EIS/EIR: None.

Response to Comment I013:231: See Response to Comment I013:230.

Response to Comment I013:232: See Response to Comment I013:230.

Response to Comment I013:233: See Responses to Comments E001:003 and I013:230.

Response to Comment I013:234: See Response to Comment I010:002.

Response to Comment I013:235: Indian Pass Road must be temporarily relocated to accomplish the Proposed Action (see Section 2.1.9.6., page 2-26, of the Draft EIS/EIR). As stated in Section 2.3.1.4. (page 2-68 through 2-69) of the Draft EIS/EIR, each of the suggested three (3) alternative locations for the rerouted Indian Pass Road were eliminated, at least in part, because of environmental or public safety issues.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:236: See Responses to Comments E001:003, I010:002, and I013:230.

Response to Comment I013:237: Comment noted. Smith (1997) found that *in situ* leaching was not a technically feasible alternative.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:238: The Draft EIS/EIR did not conduct or present a cost-benefit analysis of any of the alternatives, including the Proposed Action (see Response to Comment I002:012). Smith (1997) noted that the effect of a gold price lower than $400.00 per ounce would be to increase the required tonnage and/or increase the minimum ore grade for the alternatives. Thus, the alternatives analysis conducted for $400.00 per ounce gold is conservative (that is, lower gold prices make the alternatives less feasible).

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

Revisions to the Final EIS/EIR: None.

Response to Comment I013:239: Comments noted. See also Response to Comment I009:008.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:240: Comment noted.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:241: The surface elevation in the vicinity of the several small, isolated, ephemeral water seeps located northwest to southwest of the Project ground water well production area is approximately 350 feet AMSL (see Figure 3.5 of the Draft EIS/EIR). The static ground water elevation at the Project ground water well field area is approximately 70 feet (see Figure 3.13 of the Draft EIS/EIR). Thus, the depth to the ground water to be utilized by the Project ground water well field is several hundred feet below, and not connected to, the seeps. As stated in Section 4.1.3.2.2. (page 4-20) of the Draft EIS/EIR, these seeps likely result from near-surface flows of water (as sub-flow in ephemeral stream channels) or from the seepage of precipitation which falls on the Algodones Sand Dunes.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:242: The Project described in the 1997 Draft EIS/EIR differs slightly from the Project described in the 1996 Draft EIS/EIR in that there are now five, rather than four, stream channel diversions (see Table 1.3). As stated in Section 2.1.9.7. (page 2-28), "The drainage diversions permanently route five (5) washes (identified as the West Pit West Diversion, the West Pit East Diversion, the Singer Pit East Diversion, the East Pit West Diversion, and the East Pit East Diversion) around the mine pits." The new "Singer Pit East Diversion" is a small, short diversion of a short, small stream channel (see Figure 2.10).

The full text of the sentence quoted in the comment reads as follows:

> The local catchment areas for these four (4) washes were determined (see Figure 3.7), and estimates of peak flow in each of the washes at the upstream boundary of the Project mine and process area calculated, through use of a simple computer model, for the 100-year, 6-

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

and 24-hour, and the 500-year, 24-hour storm events (Hanson 1997a; Hanson 1997c). Table 3.2 presents these catchment areas and peak flow estimates for these storms for each of the four (4) washes."

The reference to "these four (4) washes" in this sentence is to the previous paragraph, which in applicable part reads " Four (4) **primary** washes flow into the Project mine and process area (herein named the West Pit West, West Pit East, East Pit West, and East Pit East)" [emphasis added]. There are only four **primary** washes; therefore the Draft EIS/EIR is correct as written.

Because the acreages of the catchment areas were recalculated in square miles as part of the Project redesign (see the references to Hanson 1997a and Hanson 1997c in the quoted passage), that is how they were entered into Table 3.2. Since the 1996 Draft EIS/EIR was withdrawn by the BLM and revised and recirculated in its entirety by the ICPBD (see Section 1.3., page 1-6 of the Draft EIS/EIR, consistency with the 1996 Draft EIS/EIR is not an issue.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:243: See Response to Comment E001:011.

Response to Comment I013:244: The rationale for combining these sub-basins is described on pages 7 and 8 of Appendix E of the Draft EIS/EIR. Section 3.3.2. of the Draft EIS/EIR states also that the Amos-Ogilby-East Mesa ground water basin "likely extends for hundreds of additional square miles into northern Mexico." It is appropriate to consider these basins together because available technical data indicates that they are hydraulically continuous (Environmental Solutions, Inc. 1993a).

Revisions to the Final EIS/EIR: None.

Response to Comment I013:245: (The Following Response is Also Applicable to Comments I013:246 and I013:247.) Comments noted. Nothing in the comment contradicts the information presented in Section 3.3.2. and Section 3.3.2.2. of the Draft EIS/EIR, which extensively discuss the sources of recharge into the ground water basin. Therefore, no revision of the EIS/EIR is necessary. However, as stated on page 3-22 of the Draft EIS/EIR, since most of the Coachella Canal has been replaced by a lined canal, it is no longer a substantial source of ground water recharge:

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

"The principal historic source of recharge to the water-bearing deposits within the Amos-Ogilby-East Mesa Basin has been reported to be from the Colorado River and, more recently, leakage from the All American and Coachella Canals (see Figure 3.10). An estimated 20,000 afy enters the basin from the Colorado River as underflow between the Cargo Muchacho Mountains and Pilot Knob. In addition, the USGS (Loetz 1975) estimated that in the late 1960's, the All American and Coachella Canals contributed about 100,000 and 130,000 afy, respectively, to the ground water basin. Relatively little recharge comes from infiltration of local precipitation and runoff. Since the lining of the first 45 miles of the Coachella Canal in the 1980's essentially eliminated leakage from the Coachella Canal, total recharge to the basin was roughly estimated in 1993 at 100,000 afy (Environmental Solutions, Inc. 1993a). However, it is currently believed that the distribution of low permeability materials to the north and east of the All American Canal, as well as the extensive pumping of ground water south of the All American Canal in Mexico, may limit the seepage of ground water from the All American Canal into the Amos-Ogilby-East Mesa basin (Personal Communication, Carol Brown, United States Bureau of Reclamation [USBR], April 21, 1997; Watt 1991). Therefore, the annual recharge into the Amos-Ogilby-East Mesa Basin may be more correctly conservatively estimated at approximately 30,000 afy; 20,000 afy of seepage from the Colorado River and 10,000 afy of leakage from the All American Canal."

Revisions to the Final EIS/EIR: None.

Response to Comment I013:246: (The Following Response is Also Applicable to Comments I013:263, I013:264 and I013:265.) (See Also Response to Comment I013:246.) Section 3.3.2.2. of the Draft EIS/EIR accurately describes the quality of the ground water in the area of the Project. Further, mitigation measures proposed by the Project, required by regulation, or recommended in the Draft EIS/EIR in Section 4.1.3.3.1., Section 4.1.3.2.3., Section 4.1.5.4., and Section 4.1.12.3. of the Draft EIS/EIR are designed to protect the ground water from degradation and reduce the impact of the Project below the level of significance.

The comment misquotes the Draft EIS/EIR regarding ground water quality in the Project area. The statement quoted in the comment from page 3-30 (Section 3.3.2.2.) of the Draft EIS/EIR actually discusses regional ground water quality, based on reported water quality values for the few existing water wells in the basin:

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

> "Ground water quality within the Amos-Ogilby-East Mesa Basin consistently shows levels of total dissolved solids (TDS), chloride, and fluoride which exceed drinking water standards (Environmental Solutions, Inc. 1993a). TDS concentrations range from 1,100 mg/l in the Mesquite Mine wells to greater than 3,000 mg/l in the Glamis and Boardman wells (WESTEC, Inc. 1996a). In general, the ground water is not suitable as drinking water without prior treatment, although the quality is sufficient for use in mining operations."

Section 3.3.2.2. of the Draft EIS/EIR goes on to specifically discuss the quality of ground water within the Project area:

> "Table 3.6 provides water quality data for the Project ground water monitoring and production wells. Filtered samples from the upgradient monitoring well (MW-1) met all primary drinking water standards, but exceeded the secondary drinking water standards for TDS and manganese. The downgradient monitoring well (MW-2) met all primary drinking water standards except for arsenic, and exceeded secondary drinking water standards for chloride, manganese, sulfate, and TDS. The production test well (PW-1) met all primary drinking water standards except for fluoride, and exceeded secondary drinking water standards for chloride, iron, and TDS. TDS levels were at the lower end of the range for wells completed within the basin, and the water quality appears to be suitable for non-potable uses (WESTEC, Inc. 1996a) [see Appendix E-1]."

Thus, although production test well PW-1, which is the only ground water well drilled in the Project area which is capable of producing substantial quantities of water, did have measured TDS concentrations below the primary drinking water standard of 1,000 mg/l (measured at 906 mg/l), the fluoride concentrations were above the primary drinking water standards, and thus would not be suitable for drinking water without prior treatment.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:247: See Response to Comment I013:245.

Response to Comment I013:248: (The Following Response is Also Applicable to Comment I013:256.) As stated in Section 3.3.2.1. (page 3-22) of Draft EIS/EIR, the current recharge estimate of 30,000 acre-feet per year into the basin was calculated expressly taking into account the estimated seepage to Mexico:

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

"Since the lining of the first 45 miles of the Coachella Canal in the 1980's essentially eliminated leakage from the Coachella Canal, total recharge to the basin was roughly estimated in 1993 at 100,000 afy (Environmental Solutions, Inc. 1993a). However, it is currently believed that the distribution of low permeability materials to the north and east of the All American Canal, as well as the extensive pumping of ground water south of the All American Canal in Mexico, may limit the seepage of ground water from the All American Canal into the Amos-Ogilby-East Mesa basin (Personal Communication, Carol Brown, United States Bureau of Reclamation [USBR], April 21, 1997; Watt 1991). Therefore, the annual recharge into the Amos-Ogilby-East Mesa Basin may be more correctly conservatively estimated at approximately 30,000 afy; 20,000 afy of seepage from the Colorado River and 10,000 afy of leakage from the All American Canal."

Revisions to the Final EIS/EIR: None.

Response to Comment I013:249: It takes tens of years of precipitation records to obtain useful precipitation data for a given location, as rainfall varies substantially from year to year, especially in locations such as the Project area. Use of off-site, but longer term rainfall data, such as that from Gold Rock Ranch, is in accordance to normal and acceptable hydrology practice.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:250: Comment noted. As stated in Response to Comment I013:249, the EIS/EIR relied on relevant precipitation data that is believed adequate for the analysis.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:251: Static ground water elevations are provided in Table 4.2 of Appendix E-1 of the Draft EIS/EIR. Piezometer H-4 is 91 feet from well PW-1 (page 20 of Appendix E-1 of the Draft EIS/EIR); therefore, the listed static water elevation for H-4 of 72.4 feet above mean sea level can be used for PW-1.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:252: (The Following Response is Also Applicable to Comment I013:263.) The range of transmissivities reported in Appendix E-1 is the result of

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

evaluating parts of test data by different methods. The lower transmissivity value of 7,200 gpd/ft was calculated from the early drawdown data in the pumping well. This estimated value is probably the most unreliable estimate because early data collected in the pumping well may be affected by well loss factors. The other reported transmissivity values were estimated by analyzing other groups of test data from the pumping well and the observation well. The reported range in estimates for aquifer parameters is typical for aquifer tests in alluvial deposits. The average value of hydraulic conductivity was utilized to predict the drawdown expected to result from the Project water supply well pumping. Since the total thickness of the aquifer is not precisely known, the predictions were based on a range of ground water aquifer transmissivities that would result over a reasonable range of expected aquifer thickness. Use of the average value of hydraulic conductivity to estimate the impact of pumping is reasonable since it is more likely that this value best approximates actual aquifer parameters.

Transmissivity affects both the radius of the cone of depression and its depth; the radius for any given time directly proportional to transmissivity (increasing with increasing transmissivity) and the depth being inversely proportional to the transmissivity [decreasing with increasing transmissivity] (Theis, C.V. 1940. *The Source of Water Derived from Wells*, Civil Engineering, v. 10, No. 5). Therefore, if the transmissivity is at the lower end of the estimated range, the radius of the cone of depression will be smaller and the drawdown will be greater. The estimates of drawdown in Appendix E-1 also did not consider leakage into the aquifer. Leakage will greatly reduce the radius of the cone of depression and the magnitude of drawdown, particularly at distances of greater than several hundred feet from the well. The estimates of drawdown in Appendix E-1 are conservative because the impact of leakage in to the aquifer was not considered and this impact would be greater than impacts caused by transmissivity closer to the lower extreme estimate.

A 48-hour test length is valid to predict long-term impacts of ground-water extraction for confined or semi-confined aquifers. Fetter (Fetter, C.W. 1988. *Applied Hydrogeology*, Second edition, Merrill Publishing Co.) states that for confined or semi-confined aquifers an aquifer test can be run for 24 hours or less. Therefore, the 48-hour test length was sufficient. Longer tests would be required in unconfined aquifers or bedrock aquifers with fracture flow.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:253: Comments regarding the Ocotillo-Coyote Wells ground water basin are noted. However, this basin is neither near or in hydraulic connection with the

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

Amos-Ogilby-East Mesa Basin. Thus, specific information regarding the Ocotillo-Coyote Wells ground water basin is not relevant to this Project.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:254: According to the most recent Glamis Gold Limited Form 10-K - Annual Report, for the fiscal year ending December 31, 1998 (filed 3/31/99), the Rand Communities Water District's application for a preliminary injunction was denied in January 1997 by the Kern County, California Superior Court. The Water District subsequently withdrew its lawsuit and Glamis agreed to additional payments of approximately $12,000 per year. This settlement was finalized in June 1998. In addition, on January 16, 1998, the Court ordered David Robert Johnson to comply with the groundwater mitigation measures set forth in the approval documents for the Rand Project, which are the same measures applicable to the Water District. This count order settled some of Johnson's claims, but possibly not all claims, and is subject to appeal by Johnson. Hence, to date there have been no judgements by the courts determining that any of these allegations are true.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:255A: See Response to Comment I013:254.

Response to Comment I013:255B: (The Following Response is Also Applicable to Comments I013:257 and I013:435.) Local impacts to the aquifer are described in Table 4.2 and Table 4.3 (Table 4.4 in the Final EIS/EIR) of the Draft EIS/EIR in terms of drawdown, which is the standard means of presenting such information. It is not appropriate to relate the quantity of ground water extracted by the Project well field to an extremely localized portion of the basin in the immediate vicinity of the Project well field because ground water will flow toward the wells from outside of this local area due to the drawdown; there is no know "local" ground water basin which is isolated from the rest of the basin. To discuss the effects of the Project production of ground water on the amount of ground water in storage in the basin it is necessary to discuss the basin as a whole. The Amos, Ogilby and East Mesa subbasins are believed to be hydraulically continuous (see page 8 of Appendix E-1 of the Draft EIS/EIR). Therefore, it is appropriate to compare the total project pumpage to the usable and recoverable water in the entire basin. The estimate of usable and recoverable water does not include all the ground water in the basin (see Table 3 of Dutcher et al. 1972).

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

If the hydraulic connection between the subbasins is ignored, the Project production of ground water would still not represent a significant percentage of the ground water in storage in the Ogilby subbasin alone. Section 3.3.2.1. (page 3-22) of the Draft EIS/EIR states that ground water in storage in the Amos-Ogilby portion of the basin is estimated at 126,000,000 acre-feet. If ground water in storage is assumed to be equally divided between the Amos and Ogilby sub-basins (which are of equal area), each would have approximately 63,000,000 acre-feet of ground water in storage. Project production of 24,000 acre-feet represents only 0.04 percent of this amount, which is not a significant percentage of the ground water in storage.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:256: See Response to Comment I013:248.

Response to Comment I013:257: See Response to Comment I013:255B.

Response to Comment I013:258: A gradient of 30 feet over five miles is normal for a ground water basin such as the Project area; no explanation is necessary. As is already stated in Section 3.3.2.1. (page 3-22) of the Draft EIS/EIR, "Relatively little recharge comes from infiltration of local precipitation and runoff." Further, as indicated in Table 3.3 in the Draft EIS/EIR, the depth (from the ground surface) to ground water measured within the Project area and beyond ranges from 480 feet to more than 730 feet. As stated in Section 4.1.5.2. (page 4-48) of the Draft EIS/EIR, "The water table is far below the depth that surface vegetation could be utilizing the ground water . . ." Thus, the level of recharge in the immediate vicinity is not relevant to vegetation.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:259: See Response to Comment I008:015.

Response to Comment I013:260: See Responses to Comment Letters I004 and I008.

Response to Comment I013:261: (The Following Response is Also Applicable to Comments I013:262 and I013:263.) Comments noted. However, there is no reason to believe that the Project's ground water use would not be "beneficial" pursuant to California "constitutional and legislative" requirements; mining is a potential "beneficial" use for ground waters pursuant to the "Water Quality Control Plan for the Colorado River Basin Region of California" (Basin Plan) (CRWQCB 1994),

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

and there is no evidence that the Project is proposing activities which would waste the produced ground water. The determination as to whether, under Imperial County's requirements, the use is "in the public interest" is more appropriately part of Imperial County's decision-making process regarding the Conditional Use Permit, rather than part of the environmental assessment required under CEQA, and this issue will be appropriately addressed in the findings for the decision on the Conditional Use Permit.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:262: See Response to Comment I013:261.

Response to Comment I013:263: See Responses to Comments I013:246, I013:252 and I013:261.

Response to Comment I013:264: See Response to Comment I013:246.

Response to Comment I013:265: See Response to Comment I013:246.

Response to Comment I013:266: See Responses to Comments E001:009 and I015:004.

Response to Comment I013:267: See Responses to Comments E001:009, I012:032 and I015:002.

Response to Comment I013:268: See Response to Comment E001:009.

Response to Comment I013:269: See Response to Comment E001:009.

Response to Comment I013:270: See Response to Comment E001:009.

Response to Comment I013:271: See Responses to Comments E001:009 and I015:004.

Response to Comment I013:272: See Response to Comment E001:009.

Response to Comment I013:273: If the mine is located on public lands, such as the Imperial Project, federal regulations found at 43 CFR 3809.2-2(c) require that "All operators shall comply with applicable Federal and State standards for the disposal and treatment of solid wastes, including regulations issued pursuant to the Solid Waste Disposal Act as amended by the Resource

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

Conservation and Recovery Act (42 U.S.C. 6901 *et seq.*) relevant to hazardous wastes. All garbage, refuse or waste shall either be removed from the affected lands or disposed of or treated to minimize, so far as practicable, its impact on the lands." In addition, California state hazardous waste laws and regulations would be applicable to activities at the Project site. As such, the mine owner/operator would be held responsible for hazardous waste generated at a mine site.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:274: See Response to Comment E001:009.

Response to Comment I013:275: See Response to Comment E001:009.

Response to Comment I013:276: The Colorado River Basin RWQCB (Personal Communication, Neal Krull, February 16, 2000) reports that the Chemgold Picacho Mine, and the Lahontan RWQCB, Victorville Office (Personal Communication, Steven Niou, February 24, 2000) reports that the Glamis Rand Mining Company Rand Mine, have both been in full compliance with the respective water quality permits (Waste Discharge Orders). The small spills or releases reported were incidences, such as a loose leach solution hose, where the response was collecting all the affected soil and adding this soil to the heap leach pile.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:277: (The Following Response is Also Applicable to Comment I015:021.) The Project mine and process area is located approximately five miles east of Ogilby Road. This typographical error does not invalidate the results of the work of the qualified expert reported in Appendix E to Appendix A of the Draft EIS/EIR.

Revisions to the Final EIS/EIR: The word "west" in the third line of the first paragraph of page 1 of Attachment E to Appendix A of the Draft EIS/EIR will be changed to "east."

Response to Comment I013:278: The guzzlers and Hyduke Road were replotted in response to scoping comments; the ACEC was removed as it was not a special biological resource management area located in the vicinity of the Project Area; and the Project boundary was changed by the Applicant (see Table 1.3 of the Draft EIS/EIR).

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

Revisions to the Final EIS/EIR: None.

Response to Comment I013:279: (See Also Response to Comment I005:012.) Comment noted.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:280: (See Also Response to Comment I005:012.) The vegetation baseline survey was not conducted following the fall rains because the appropriate period prescribed by agency biologists for undertaking baseline vegetation surveys in this region is during the spring months when the likelihood for encountering and identifying of annual species is greatest. The quantitative field surveys were undertaken on June 2-3, 1995. This is within normal seasonal period when effective spring surveys may be undertaken. There was no technical reason nor requirement to conduct vegetation surveys in both early spring and late spring.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:281: See Responses to Comments I005:012 and I013:144.

Response to Comment I013:282: See Response to Comment I005:012.

Response to Comment I013:283: See Response to Comment I005:012.

Response to Comment I013:284: See Response to Comment I005:012.

Response to Comment I013:285: (See Also Response to Comment I005:012.) Comment noted.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:286: See Response to Comment I005:012.

Response to Comment I013:287: See Response to Comment I005:012.

Response to Comment I013:288: (See Also Response to Comment F002:005.) Comment noted. As stated in Section 3.5.6.2. (page 3-77 through 3-80) of the Draft EIS/EIR, there are conflicting

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

interpretations as to the importance of the Project area, and specifically the microphyll woodland habitat found in the major washes, as deer fawning habitat. The Draft EIS/EIR (page 3-77) states:

> "Mule deer are widely distributed throughout the Project area and surrounding vicinity. Based upon a survey of the ephemeral stream channel system, it was found that the channels are regularly used by deer, with principal movements occurring at night (Rado 1995). Deer sign (i.e., tracks and/or scat) were observed in all major channels within the Project mine and process area, and those extending one (1) or more miles from the Project mine and process area boundaries. The microphyll woodlands typical of these channels apparently serve as movement corridors for the deer. However, fresh deer tracks and scat were also regularly observed on the interspersed desert pavement, showing that deer are dispersed and move freely about cross-country between drainages."

The Draft EIS/EIR does not reflect the comment that "deer only occur in the Project area when traveling from the mountains to the Colorado River." All parties referenced in Section 3.5.6.2. (pages 3-78 through 3-80) of the Draft EIS/EIR concur that the deer use the Project area to "migrate" back and forth to the Colorado River. The CDFG has also indicated that microphyll woodland in the major washes within the Project area and vicinity provide deer fawning habitat and support numbers of deer. However, these reported observations are not consistent with the independent assessment made by Paul Krausman, a consulting wildlife ecologist, who visited the Project area and concluded that the Project area is not consistent with habitat used to support a resident deer herd or with important deer fawning habitat. The conflicting information is discussed in Section 3.5.6.2. (pages 3-78 and 3-80) of the Draft EIS/EIR. See also "Response to Comment F002:005" for the response to comments regarding the potential impacts of the Project on deer fawning habitat.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:289: Sensitive bat species which may roost or forage in the vicinity of the Project area are listed in Table 3.11 and described in Section 3.5.6.1. (pages 3-69 and 3-70) of the Draft EIS/EIR. No sensitive bat species were recorded within the Project mine and process area during the original biological surveys (Rado 1995). No mine adits, caves, or large rock crevices were identified in the Project area, thereby limiting the species of bats which may day roost within the Project mine and process area. However, as stated in Section 3.5.6.1. of the Draft EIS/EIR, some bat species could roost in trees or in small rock crevices. A specific survey of the Project mine and process area for bats was conducted by Patricia E. Brown, Ph.D. in June of 1997. The results of the

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

bat survey are summarized in Section 3.5.6.2. (pages 3-75 and 3-76) of the Draft EIS/EIR, and the entire survey report is contained as Appendix J of the Draft EIS/EIR. Five sensitive bat species designated by the USFWS as Special Status Species and/or California species of concern (CSC) could conceivably roost, and also forage, in the Project area, including: Yuma myotis, small-footed myotis, cave myotis, occult little brown bat, and desert pallid bat. An additional six Special Status Species/CSC bat species would not roost in the Project area but could use the Project area as nighttime foraging habitat, including: Townsend's big-eared bat, spotted bat, western mastiff, California leaf-nosed bat, big free-tailed bat, and pocketed free-tailed bat.

The potential impact of the Project on bats is discussed in Section 4.1.5.3.4. (pages 4-61 and 4-62) of the Draft EIS/EIR: "Large numbers of bats would neither be killed nor displaced by the Project. Foraging habitat would be affected, but similar habitat is widespread around the Project area. Night lighting from the Project would attract insects and could result in a net increase in bats foraging in the vicinity of the Project mine and process area. This could lead to individual bat collisions with lights or drownings in ponds. However, based on the availability of off-site day roost areas and foraging habitat, the effects of the Proposed Action on sensitive bat species and their habitat would be below the level of significance." This finding of less than significant impacts is not affected by the "Imperial Project Revised Significance Determinations Under CEQA for Environmental Impacts on 'Endangered, Rare or Threatened' Biological Resources Recirculated Supplement to the Draft EIS/EIR" (BLM and ICPBD, 1999) as no endangered, rare or threatened bat species are known to occur in the Project area.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:290: See Response to Comment I013:122.

Response to Comment I013:291: The effects of the Project on vegetation and habitat downstream of the mine site is discussed in Sections 4.1.5.2. and 4.1.5.3.1. (pages 4-46 through 4-53) of the Draft EIS/EIR.

The washes are incised into a cemented alluvium, and contain only a thin veneer of gravel and sandy soil, which is up to three feet thick in the largest washes and only one foot thick in the smaller washes (see page 2 of Appendix G of the Draft EIS/EIR). As stated in Appendix G of the Draft EIS/EIR, these gravels in the washes support little or no vegetation; the significant vegetation occurs on the banks of the larger washes and within the shallow side washes, where water from infrequent

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

flows in the washes infiltrates and can be tapped by (relatively) deep-rooted vegetation. However, there is no evidence of substantial "flows" of subsurface ground water which would be interrupted by the diversions or open pits. In fact, based on the drilling conducted to date, little ground water has been encountered anywhere in the Project mine and process area, and that found is located at great depths (see Table 3.3 of the Draft EIS/EIR).

As stated in Section 4.1.5.3.1. (page 4-49) of the Draft EIS/EIR, "The diversion channels through the Project mine and process area would be built to approximate the original drainage system in both gradient and channel geometry to prevent erosion, and would be revegetated with microphyll vegetation to establish the same type plant habitat." In addition, page 4-52 of the Draft EIS/EIR states that "The through-flowing surface drainages would be located as close to their original courses as reasonably possible in comparably-sized channels which would tie into the original wash systems downgradient of the diversion point." Since the diversion channels would be cut into this same cemented alluvium, and would be similar to the original drainages in structure, location, and size, the infiltration rate of water into the diversion channels is expected to be similar (with the exception of the situation discussed in the following paragraph) to that of the existing stream channels.

Ground water inflow into the open pits is expected to be very small. As stated in Section 2.1.3. (page 2-11) of the Draft EIS/EIR, ". . . total ground water inflow has been estimated at only 1.5 gpm for the West Pit and 0.7 gpm for the East Pit." In addition, as stated in Section 2.1.9.7. (page 2-29) of the Draft EIS/EIR, "During the period that an adjacent pit is open, a diversion channel may be temporarily lined with high density plastic or clay protected by rip rap to prevent subsurface flows into the open pit." This action would reduce infiltration of water into the diversion channel banks, which would reduce any potential for evaporative loss of water along the pit walls. This would also reduce infiltration into the diversion banks which could be used by microphyll woodland vegetation in the immediate vicinity of the lined section of diversion channels. However, this amount of water would then be available for infiltration into the unlined bank of the diversion channel or the wash for use by vegetation at that point.

Since the infiltration rate of water into the banks of the diversion channels is expected to be similar (with the exception of the temporarily lined channels) to that of the existing stream channels, there should be no significant alteration of surface water available to microphyll woodland vegetation in the major wash systems downgradient of the Project mine and process area. However, Mitigation Measure 4.1.5-11 includes monitoring of the washes downstream (and upstream for comparison) of

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

the Project mine and process area for detection of indirect effects to microphyll woodland habitat, and off-site compensation at a 3:1 ratio if there are negative effects which cannot be mitigated.

No studies of the effects of diversions of washes on subsurface waters and microphyll woodland vegetation at other mines are known.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:292: Comment noted. Nothing in the quoted sections of the CDCA EIS contradicts the discussion of the impacts to wildlife and wildlife habitat from the Project presented in Section 4.1.5.3. (pages 4-50 through 4-64) of the Draft EIS/EIR.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:293: See Responses to Comments F002:006 and I013:291.

Response to Comment I013:294: See Response to Comment I013:163.

Response to Comment I013:295: See Response to Comment I013:168.

Response to Comment I013:296: See Response to Comment I013:168.

Response to Comment I013:297: (The Following Response is Also Applicable to Comment I015:015.) The comment author may have misunderstood the intent of the statements in the Draft EIS/EIR regarding Project the effects of noise on wildlife.

As stated in Section 4.1.5.3.2. (page 4-53) of the Draft EIS/EIR, "Noise-sensitive species would be expected to avoid both the Project area and neighboring areas over the life of the Project, but would be expected to return when noise generating operations are discontinued . . . . Because of the substantial amount of alternative habitat available, these impacts to wildlife and wildlife movement are not considered significant . . . . Some wildlife species might come under increased pressure from opportunistic predators (i.e., ravens, coyotes and kit foxes) attracted to the Project area by increased water availability, refuse, or noise . . . . Because of the substantial open space surrounding the Project mine and process area, these effects are not considered significant." In addition, Section 4.1.5.3.4. of the Draft EIS/EIR contains discussions of the impact of noise on the American badger ("The

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

Project would result in a reduction of the habitat available to badgers in the Project area, and increased noise, lighting, and traffic would likely result in behavior modifications by badgers to avoid the area."); deer ["Noise from equipment operation, blasting activities, and human presence, as well as night lighting of the Project mine and process area facilities, would be expected to inhibit deer activity in the immediate vicinity of the Project mine and process area in the short-term; however, deer would be expected to acclimate to Project noise over time and resume utilization of the areas outside the boundaries of the Project mine and process area (Personal Communication, Nancy Andrew, CDFG, 1997)."], and bighorn sheep ("Natural dispersal corridors, between Peter Kane Mountain to the north and the Cargo Muchacho Mountains to the south, lie several miles to the east of the Project mine and process area, and these routes would not be directly affected by the Project activities. Although noise from Project operations, especially from blasting, may be discernable in these areas, the effect on bighorn sheep would be below the level of significance.").

Each of the discussions of the effects of noise on wildlife in these sections of the Draft EIS/EIR deal only with the indirect impacts to wildlife outside of the Project mine and process area. Wildlife outside of the Project mine and process area would not be subject to any direct impacts of the Project, and thus would not need (to quote from the comment) to "move away from the mining operations rapidly enough or in the appropriate direction to avoid harm." The portions of Section 4.1.5.3.2. of the Draft EIS/EIR preceding those quoted above also discuss the direct impacts to wildlife within the Project mine and process area, including increased mortality as a result of direct physical impacts or entombment during construction or processing activities, or injury or mortality during on-site blasting and continued mining operations and geological survey activities (page 4-53). The Draft EIS/EIR thus acknowledges that some wildlife, including the "smaller animals" addressed in the comment, may not be able to leave the Project mine and process area in time to avoid being killed during construction, processing, blasting, mining, or geological surveying activities.

The Draft EIS/EIR (Section 4.1.5.4.) proposes several mitigation measures designed to supplement or improve the quality of wildlife habitat outside of the Project mine and process area during and subsequent to Project operations, thereby potentially reducing competition between the wildlife which may relocate from the Project mine and process area to these areas and the wildlife which already inhabited these areas.

The noise impacts from blasting are addressed in 4.1.8.2. of the Draft EIS/EIR. As stated on page 4-101 in this section, ". . . blasting (which the Proposed Action restricts to daylight hours) can

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

cause very short-duration noise levels in excess of 140 dBA at 25 feet." (As also discussed in Response to Comment I009:029, short-duration blasting noise levels of 115 dBA at 50 feet have also been reported.) As Section 4.1.8.2. (page 4-101) of the Draft EIS/EIR continues, "Noise is attenuated by distance, atmospheric conditions, and topography. Sound wave divergence typically results in a six (6) dBA decrease for every doubling of distance from a noise source (ICPBD 1978). This assumption is conservative since it does not account for noise attenuating factors such as topography, wind, temperature gradients, atmospheric pressure, and other site-specific factors, such as the upward deflection of noise generated down in the bottom of a pit," all of which would likely attenuate blasting noise levels outside of the Project mine and process area. As noted in Response to Comment I009:041, the Final EIS for the Oro Cruz Project (Bureau of Land Management. 1994. *Final Environmental Impact Statement, Oro Cruz Operation of the American Girl Mining Project, November 1994* [pages 202 and 203]) stated that "Blasting may or may not be heard at 3 miles depending on the weather and temperature inversions, effect of the natural barriers around the project, and intensity of each particular blast. If a blast is heard, it would be heard only during daytime hours, and would be heard only as a low-frequency rumbling which is not generally an obtrusive sound."

As stated in Section 4.1.5.3. (page 4-53) of the Draft EIS/EIR, "noise-sensitive species would be expected to avoid both the Project area and neighboring areas over the life of the Project . . . ," and this impact was evaluated along with the other intrusional impacts of the Project on wildlife. As indicated in Response to Comment I013:408, there are no definitive studies on the adverse effects of noise on wildlife and no noise standards exist for wildlife. Most wildlife species are adversely affected by noise and human activities, but no wildlife species known to occur in the vicinity of the Project area were identified as being unusually sensitive to noise. The measures provided in Section 4.1.5.4. of the Draft EIS/EIR to mitigate and compensate for the adverse effects of the Project on wildlife also mitigate and compensate for the adverse noise effects of the Project on wildlife.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:298: See Response to Comment E001:012.

Response to Comment I013:299: As stated on in Section 4.1.5.3.2. (page 2-55) of the Draft EIS/EIR, the purpose of surrounding the East Pit with boulder barricades is principally for public

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

safety and to exclude vehicle access, and only secondarily as an impediment to wildlife entering the open pit:

> "The East Pit would remain as an open approximately 198-acre excavation which would remain as a slight long-term impediment to the movement to some wildlife species. Individual terrestrial wildlife species could become injured or killed by falls within this open pit, although as part of the Proposed Action a rock rubble barricade would be constructed around the open pit to prevent vehicular access and limit pedestrian and wildlife access, and haul roads within the open pit would be regraded such that wildlife or humans would still be able to use them to exit the open pit should they pass beyond the barricade."

The potential impact of tortoises becoming injured or killed as a result of falls or excessive predation in the area of the East Pit following the completion of mining is discussed on page 4-56 of the Draft EIS/EIR and specific measures to mitigate the impacts on desert tortoise, consistent with the requirements of the USFWS, are provided as Mitigation Measures 4.1.5-30 through 4.1.5-47. These measures, and other general measures provided to mitigate potential impacts on wildlife, are expected to reduce the impacts of the Project on desert tortoise to less than significant levels.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:300: See Response to Comment I013:198.

Response to Comment I013:301: See Response to Comment I013:122.

Response to Comment I013:302: See Response to Comment I013:163.

Response to Comment I013:303: See Response to Comment I013:163.

Response to Comment I013:304: Comments noted.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:305: Comments noted.

Revisions to the Final EIS/EIR: None.

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

Response to Comment I013:306: The term "Draft" was used because there was still some possibility that the report could be revised, pending final review of the site trinomial designations by the Southeastern Information Center. As of February, 2000, this review had not been completed.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:307: See Response to Comment I013:327.

Response to Comment I013:308: See Response to Comment I013:327.

Response to Comment I013:309: See Response to Comment I013:327.

Response to Comment I013:310: See Response to Comment I013:327.

Response to Comment I013:311: See Response to Comment I013:327.

Response to Comment I013:312: (See Also Response to Comment I013:327.) Consistent with the direction of both NEPA and CEQA, the discussions of cultural resources contained in Section 3.6. and Section 4.1.6. of the Draft EIS/EIR are specifically intended to summarize the detailed technical studies contained in Appendix L of the Draft EIS/EIR. Technical reports, by their very nature, are more comprehensive and detailed than the summaries in the text of the Draft EIS/EIR. However, Appendix L is still specifically part of the Draft EIS/EIR, and there is no suggestion that the information contained in Section 3.6. and Section 4.1.6. of the Draft EIS/EIR does not accurately summarize the information presented in Appendix L of the Draft EIS/EIR.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:313: See Response to Comment I012:046.

Response to Comment I013:314: See Response to Comment I012:046.

Response to Comment I013:315: See Response to Comment I012:046.

Response to Comment I013:316: See Response to Comment I012:046.

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

Response to Comment I013:317: See Response to Comment I012:046.

Response to Comment I013:318: See Responses to Comments E001:013 and I005:004.

Response to Comment I013:319: See Responses to Comments E001:013 and I005:004.

Response to Comment I013:320: See Response to Comment I012:048.

Response to Comment I013:321: See Response to Comment I012:048.

Response to Comment I013:322: See Response to Comment I012:048.

Response to Comment I013:323: See Response to Comment I012:048.

Response to Comment I013:324: See Response to Comment I012:048.

Response to Comment I013:325: See Response to Comment I012:048.

Response to Comment I013:326: (The Following Response is Also Applicable to Comments J006:002, J007:007, J007:008, J007:009, J007:010, J016:001, J025:003 and J025:009.) Section 4.1.6.2. (specifically on page 4-83) of the Draft EIS/EIR clearly identifies impacts associated with the Project on Native American religious concerns. Based upon Native American consultation, Section 4.1.6.2. and Section 4.1.6.4. of the Draft EIS/EIR conclude that adverse effects would occur to the Indian Pass-Running Man ATCC, and that the impact of the Proposed Action to this and other cultural resources would be significant and unavoidable, even after implementation of the mitigation measures specified in Section 4.1.6.3. of the Draft EIS/EIR.

The difference in the two figures regarding the number of eligible cultural resource sites is provided in the following paragraph quoted from page 3-92 of Section 3.6.2.3. of the Draft EIS/EIR:

> "Five (5) linear sites have not been evaluated. Three (3) are trails of undetermined date (prehistoric/historic), two (2) of which have historic components in association. The two (2) remaining sites are historic features, a water pipeline and a historic trail, which cross the overbuilt 92 kV/34.5 kV transmission line corridor, have not been evaluated. They appear to be associated with the mining town site of Hedges, which has been evaluated as eligible

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

for the NRHP. However, the overbuilt 92 kV/34.5 kV transmission line would not impact these features, and a full evaluation of their significance is not necessary."

Qualified archaeologists conducted an exceptionally intensive survey of the area of potential effects, as extensively documented in Appendix L of the Draft EIS/EIR and summarized in Section 3.6.2.3. and Section 3.6.2.4. of the Draft EIS/EIR. It is highly unlikely that the "site" composed of stones referenced in the comment was not found and documented due to the five-meter interval width survey methodology employed by the intensive field survey. Nevertheless, the BLM and archaeological consultant responsible for the cultural resource survey is willing to meet the comment author at the Project area at some mutually convenient time to ensure that this feature, if a valid feature and not previously recorded, is recorded. The State Historic Preservation Officer has reviewed the archaeological report (see Appendix L of the Draft EIS/EIR) and has not raised any concerns regarding the adequacy of the level of recordation for purposes of assessing significance. Table 3.12 does not contain any confidential information such as site locations; the type of information provided in this table is regularly provided in other EISs and/or EIRs to convey the nature of the cultural resources identified on a project site.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:327: (The Following Response is Also Applicable to Comments I012:039, I012:040, I012:041, I012:043, I013:307, I013:308, I013:309, I013:310, I013:311 and I013:312.) The quotations provided are cited accurately, and the discussions that summarize or paraphrase sections from the Draft EIS/EIR are fairly accurate. These quotations, summaries, and paraphrases do not question or address the adequacy of the Draft EIS/EIR. The comments regarding differences between the 1996 and 1997 surveys are correct; the different findings resulted from a much more intensive survey of the Project area and additional areas undertaken in 1997 as a result of comments received to the 1996 survey which were used in scoping for the 1997 Draft EIS/EIR (see Section 1.4., Table 1.1, page 1-7, of the Draft EIS/EIR). The original 1996 survey and the more intensive 1997 survey are described in Section 3.6.2.3. (pages 3-85 through 3-92) and in Appendix L of the Draft EIS/EIR.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:328: (The Following Response is Also Applicable to Comments I012:039 and I013:329.) (See Also Response to Comment I013:327.) The comment correctly quotes

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

page 259 of Appendix L of the Draft EIS/EIR, but incorrectly interprets the intended meaning, in part because the quoted sentence is not clearly written.

The quoted sentence is the last in a set of two paragraphs which discuss how the very intensive survey conducted by KEA resulted in the identification of a substantially larger number and greater distribution of features, including lithic scatter, than previous surveys, which in turn resulted in a dramatic difference in site boundaries from the earlier surveys. KEA (Personal Communication, Jamie Cleland, September 16, 1998) has indicated that the intent of the quoted sentence was to explain that because of the site "lumping" (that is, the "lumping" together of many features into a few very large sites), essentially all of the land within the Project mine and process area is now within the boundaries of a site, and virtually any activity would therefore result in impacts to one or more sites. In addition, the entire Project mine and process area is now recognized as being located within the Running Man-Indian Pass ATCC, which means that any activity within the Project mine and process area would also have an effect on the ATCC. Finally, the sentence acknowledges that cultural features may have been overlooked by the less intensive survey methods used in the 1980s.

The "impacts" referred to in this quoted sentence from page 259 of Appendix L of the Draft EIS/EIR were hypothetical in nature, and the sentence should not be interpreted to mean that the KEA field survey documented numerous instances where previous mineral exploration activities (or, for that matter, any other activity) created direct impacts to cultural resource features within the Project mine and process area. To the contrary, the KEA field survey did not attempt to document instances where previous mineral exploration activities had had direct impacts to any cultural resource features within the Project mine and process area (Personal Communication, Jamie Cleland, September 16, 1998). Contrary also to the interpretation of the quoted sentence by the comment, the BLM did have all of the areas which would receive direct impacts as a result of the mineral exploration activities conducted in the 1980's (such as access trails and core hole drill sites) surveyed for cultural resources (see pages 124 through 127 of Appendix L of the Draft EIS/EIR).

The Final EIS/EIR will note that the last sentence of the third paragraph on page 259 of Appendix L of the Draft EIS/EIR has been reworded by KEA, the authors of Appendix L, to read: "If this survey had been conducted before any exploration drilling of the area in the 1980s was conducted, then **the potential for inadvertent** impacts to trails, site areas, and features would have been **reduced** [*emphasis added*]." Since, as the comment itself notes, this sentence is neither used or referenced in the text of the body of the Draft EIS/EIR, no revision to the text of the body of the Final EIS/EIR is necessary.

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

It is not possible in the field to easily distinguish the age of any of the previous mineral exploration activities. However, the age of the previous mineral exploration activities is not a relevant issue since the KEA field survey did not attempt to document instances where previous mineral exploration activities had had direct impacts to any cultural resource features within the Project mine and process area.

Revisions to the Final EIS/EIR: The Final EIS/EIR will note that the last sentence of the third paragraph on page 259 of Appendix L of the Draft EIS/EIR has been reworded by KEA, the authors of Appendix L, to read: "If this survey had been conducted before any exploration drilling of the area in the 1980s was conducted, then **the potential for inadvertent** impacts to trails, site areas, and features would have been **reduced**." [emphasis added]

Response to Comment I013:329: See Response to Comment I013:329.

Response to Comment I013:330: See Responses to Comments H001:004, I012:023 and I013:337.

Response to Comment I013:331: See Response to Comment I012:044.

Response to Comment I013:332: See Response to Comment I012:044.

Response to Comment I013:333: See Response to Comment I012:044.

Response to Comment I013:334: See Response to Comment I012:044.

Response to Comment I013:335: See Response to Comment I012:044.

Response to Comment I013:336: See Response to Comment I012:044.

Response to Comment I013:337: (The Following Response is Also Applicable to Comments D002:004, H001:008, I012:043, I013:330, I013:338, I013:339, I013:340, I013:341, I014:008.) The Running Man site, trails, cleared circles, and other sites of cultural and religious importance to the Quechan are extensively addressed in the Draft EIS/EIR, including the appended cultural resource reports. Based upon consultation with Quechan Culture Committee members, the Running Man site is recommended by Appendix L to the Draft EIS/EIR as part of a larger area for listing as an Area of Traditional Cultural Concern (ATCC). The Indian Pass-Running Man ATCC and several other

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

cultural resources in the Project area are described by the Draft EIS/EIR as significant and eligible for listing on the National Register of Historic Places (NRHP). Specifically, as indicated in Section 3.6.2.3. (pages 3-85 through 3-91) and in Section 4.1.6.2. (pages 4-81 through 4-83) of the Draft EIS/EIR, the Indian Pass-Running Man ATCC and other sites of religious significance are evaluated as eligible for the NRHP. Impacts to the Indian Pass-Running Man ATCC are considered by the Draft EIS/EIR as significant in Section 4.1.6.3. (page 4-83). The comment accurately cites and reflect portions of the Draft EIS/EIR regarding the significance of the Indian Pass-Running Man ATCC and impacts that would occur to it, as well as its potential eligibility for listing on the NRHP.

Regarding comparisons of the Project area with Tecate Peak, this area is listed on the NRHP as a Traditional Cultural Property. The Indian Pass-Running Man ATCC is similarly proposed for listing on the NRHP, but is not proposed for designation as an Area of Critical Environmental Concern.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:338: See Responses to Comments A001:005 and I013:337.

Response to Comment I013:339: See Responses to Comments A001:005 and I013:337.

Response to Comment I013:340: See Responses to Comments A001:005 and I013:337.

Response to Comment I013:341: See Responses to Comments A001:005 and I013:337.

Response to Comment I013:342: See Response to Comment I012:023.

Response to Comment I013:343: See Response to Comment I012:023.

Response to Comment I013:344: See Response to Comment I012:023.

Response to Comment I013:345: See Response to Comment I012:023.

Response to Comment I013:346: See Response to Comment I012:023.

Response to Comment I013:347: See Responses to Comments H001:004 and I012:023.

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

Response to Comment I013:348: See Response to Comment A001:005.

Response to Comment I013:349: See Responses to Comments A001:005 and I012:023.

Response to Comment I013:350: See Responses to Comments A001:005 and I012:023.

Response to Comment I013:351: See Responses to Comments A001:005 and I012:023.

Response to Comment I013:352: See Responses to Comments A001:005 and I012:023.

Response to Comment I013:353: See Responses to Comments A001:005 and I012:048.

Response to Comment I013:354: See Response to Comment H001:009.

Response to Comment I013:355: See Responses to Comments E001:013, I005:004 and I012:048.

Response to Comment I013:356: See Responses to Comments A001:005 and H001:004.

Response to Comment I013:357: Comment noted.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:358: Comment noted.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:359: Comment noted.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:360: Comment noted.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:361: Comment noted.

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

Revisions to the Final EIS/EIR: None.

Response to Comment I013:362: Comment noted.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:363: Comment noted.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:364: Comment noted.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:365: See Response to Comment I010:002.

Response to Comment I013:366: See Responses to Comments A001:005, H001:004 and I013:002.

Response to Comment I013:367: See Response to Comment I013:002.

Response to Comment I013:368: See Response to Comment I013:002.

Response to Comment I013:369: See Response to Comment I013:002.

Response to Comment I013:370: See Response to Comment I013:002.

Response to Comment I013:371: See Response to Comment I013:002.

Response to Comment I013:372: See Response to Comment I013:002.

Response to Comment I013:373: See Response to Comment I013:002.

Response to Comment I013:374: See Response to Comment I013:002.

Response to Comment I013:375: See Responses to Comments I013:002 and I015:007.

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

Response to Comment I013:376: See Responses to Comments I013:002 and I015:007.

Response to Comment I013:377: See Responses to Comments I010:002, I010:006, and I013:002.

Response to Comment I013:378: Comment noted.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:379: Comment noted.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:380: Comment noted.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:381: Comment noted.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:382: See Response to Comment I013:002.

Response to Comment I013:383: (See Also Response to Comment I010:002.) Mineral resource development is a recognized and allowed activity within Class L, Limited Use, areas designated under the CDCA plan. However, not withstanding the allowance of mining activities to exist in areas designated Class L, the Draft EIS/EIR concurs that the Proposed Action would not conform with BLM Class II visual objectives generally applied to this area. This nonconformance with the BLM visual objectives was determined to be a significant impact (Draft EIS/EIR, page 4-99).

Revisions to the Final EIS/EIR: None.

Response to Comment I013:384: (The Following Response is Also Applicable to Comments I013:385, I013:386, I013:387, I013:390 and I013:391.) The photographs presented in the Visual Resource assessment of the Environmental Consequences of the Project (Draft EIS/EIR, pages 4-93 through 4-98, were not taken with a camera using a telephoto lens. Each of the photographs depicts

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

a view of the proposed Project mine and process area and related photo-simulations taken from the identified "Key Observation Points" (KOPs) using either a 50/55 mm camera lens (i.e., the photographic lens that best equates to the depth of field from the human eye), or by computer adjustment of a landscape photograph (i.e., a wide angle camera lens) to an image equivalent to a photograph taken with a 50/55 mm lens. The photographs then are representative of what the human eye would see from the respective KOPs. As discussed on page 4-90 of the Draft EIS/EIR, comment author is correct that views from a realigned Indian Pass Road adjacent to the mine site would provide a close and clear view of the waste rock stockpiles and other Project facilities, but the purpose for presenting the views from the KOPs was to document the existing landscape and to depict changes in the landscape view of the area resulting from the Project and not to photograph specific vegetation that would be lost during Project construction. Multiple close-up photographs of representative vegetation in the Project mine and process area that would be lost or damaged by the Project are provided in Appendices F, G, and H of the Draft EIS/EIR.

Revisions to the Final EIS/EIR: The following paragraph would be added to follow the first full paragraph on page 4-91 of the Draft EIS/EIR:

> "Each of the photographs used in this visual analysis depicts a view of the proposed Project mine and process area and related photo-simulations taken from the identified "Key Observation Points" (KOPs) using either a 50/55 mm camera lens (i.e., the photographic lens that best equates to the depth of field from the human eye), or by computer adjustment of a landscape photograph to an image equivalent to a photograph taken with a 50/55 mm lens. The photographs are representative of what the human eye would see from the respective KOPs."

Response to Comment I013:385: See Response to Comment I013:384.

Response to Comment I013:386: See Response to Comment I013:384.

Response to Comment I013:387: (See Also Response to Comment I013:384.) Photographs of observation points or from viewpoints of particular importance to Native Americans are typically not placed in documents open to the public for fear of vandalism or desecration of these locations that might result by identifying sites of cultural, archaeological or spiritual significance to individuals that may not respect these locations.

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

Revisions to the Final EIS/EIR: None.

Response to Comment I013:388: (See Also Response to Comment I013:389.) As discussed in the Section 4.1.7.2. (pages 4-91 through 4-92) of the Draft EIS/EIR, the visual resource analysis was undertaken in accordance with BLM Manual Section 8400 (Visual Resource Management), including the Manual Handbook H-8410-1. The methodology prescribed by the Manual and Handbook was both referenced in the Draft EIS/EIR and followed during the assessment.

The visual resource inventory process provides BLM managers with a means for determining visual values by classifying BLM-administered lands into one of four classes, with Classes I and II being the most valued, Class III of moderate value, and Class IV having the least relative value. Inventory classes are established by the BLM via the resource management process (RMP). The RMP relevant to the subject Project area is that undertaken for the California Desert Conservation Area (CDCA). Section 4.1.7.2. (page 4-99) of the Draft EIS/EIR discusses the Class II visual objectives for lands designated Class L (Limited Use) in the CDCA.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:389: (See Also Responses to Comments I013:383 and I013:388.) The analysis of the Environmental Consequences of the Project on Visual Resources is not presented in the Affected Environment section referenced by the comment author. The Environmental Consequences of the Project on Visual Resources is presented in Section 4.1.7.2 (pages 4-88 through 4-99) of the Draft EIS/EIR. The Draft EIS/EIR clearly states that the Proposed Action would not be in conformance with the Class II visual objectives and that the lack of conformance is determined to be a significant impact (page 4-99). The BLM will take guidance provided in the BLM Manual into consideration during decision-making on the Project.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:390: (See Also Response to Comment I013:384.) The rationale for selecting the KOPs that were used in the visual resource assessment is provided on page 3-96 of the Draft EIS/EIR. All KOPs were selected to ensure a reasonable representation of points "along commonly traveled routes or at other likely observations points." In fact, as stated in the first paragraph of Section 4.1.7.2. (page 4-88) of the Draft EIS/EIR, KOP #4 (at the informal overnight camping area on Indian Pass Road) was added in response to comments on the first Draft EIS/EIR

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

(see Figures 4-8 and 4-9). KOP #4 is a readily locatable campsite along Indian Pass Road that is considered representative of viewpoints on Indian Pass Road where viewers would be stopped and affected by the visual contrast of the Project on the landscape. As suggested by the language quoted by the comment, this site was selected for the KOP along Indian Pass Road because of "the number of viewers (and) the length of time the project is in view."

An infinite series of additional viewpoints along the travel route of Indian Pass Road could have also been selected as KOPs, but they were not determined necessary for the visual resources assessment. The primary goal of the visual resource assessment is to determine if the Project would be in conformance with the visual goals for the area established by the BLM. As the assessment from the KOPs selected for the analysis determined that the Project would not be in conformance with Class II visual objectives, and it was determined that a significant impact on visual resources will occur, it was determined unnecessary to consider any additional potential KOPs.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:391: See Responses to Comments I013:384 and I013:390.

Response to Comment I013:392: See Responses to Comments I013:384 and I013:390.

Response to Comment I013:393: See Responses to Comments I013:384 and I013:390.

Response to Comment I013:394: See Responses to Comments I013:384, I013:389 and I013:390.

Response to Comment I013:395: The measures described in the Draft EIS/EIR to reduce the visual impact of the Project (pages 4-88 through 4-90) would reduce the adverse effects of the visual impact, but the Draft EIS/EIR concludes that these measures would not reduce the adverse effects of the Proposed Action to below the level of significance.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:396: (The Following Response is Also Applicable to Comment I013:397.) The referenced statement reads, in full text, "The potential number of viewers from KOP #4 would vary depending on the season; during the winter months the number may reach several hundred per month, whereas in the summer months the number may be only a few per week."

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

KOP #4 is specifically the location of the informal overnight camping area on Indian Pass Road; the listed estimates for use are not inconsistent with the quoted passage from the Recreation section of the Draft EIS/EIR.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:397: See Response to Comment I013:396.

Response to Comment I013:398: See Responses to Comments I013:389 and I013:396.

Response to Comment I013:399: See Responses to Comments H001:009, I012:025, I013:389, I013:390 and I013:395.

Response to Comment I013:400: See Responses to Comments H001:009, I012:025, I013:389, I013:390, I013:395, and I025:004.

Response to Comment I013:401: See Responses to Comments H001:009, I012:025, I013:389, I013:390, I013:395 and I025:004.

Response to Comment I013:402: See Response to Comment I005:014.

Response to Comment I013:403: See Response to Comment I005:014.

Response to Comment I013:404: See Response to Comment I005:014.

Response to Comment I013:405: See Response to Comment I005:014.

Response to Comment I013:406: (The Following Response is Also Applicable to Comment I013:407.) (See Also Response to Comment I009:041.) The second paragraph of page 3-99 (Section 3.8.1.) of the Draft EIS/EIR explains that noise is a form of energy generally described as unwanted sound. It further explains that it is typically measured in A-weighted decibels, which is a logarithmic scale of sound within the audible range that approximates human hearing. The range from 5 dBA to 140 dBA is described as the range from quietest sound to painfully loud sound. Information regarding the human perception of sound levels will be added to the Final EIS/EIR.

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

Revisions to the Final EIS/EIR: The following sentence will be added to the end of the second paragraph on page 3-99 (Section 3.8.1.) of Draft EIS/EIR: "A 3 dBA increase in average sound is considered barely perceptible; a 5 dBA increase in average sound is considered clearly perceptible; and a 10 dBA increase in sound is approximately equal to a doubling in the human perception of loudness."

Response to Comment I013:407: See Responses to Comments I009:041 and I013:406.

Response to Comment I013:408: (The Following Response is Also Applicable to Comment I015:027.) (See Also Response to Comment I009:041.) As cross-referenced on page 4-102 (Section 4.1.8.2.) of the Draft EIS/EIR, the effects of noise on wildlife are discussed in Section 4.1.5.3. of the Draft EIS/EIR, which acknowledges that wildlife will be affected by Project noise. As stated in Section 4.1.5.3. (page 4-53) of the Draft EIS/EIR, "noise-sensitive species would be expected to avoid both the Project area and neighboring areas over the life of the Project . . . ," and this impact was evaluated along with the other intrusional impacts of the Project on wildlife. Numerous investigations have been conducted on the effects of noise on domestic and farm animals and various wildlife species [for example, Manci, K.M., D.N. Gladwin, R. Villella and M.G. Cavendish. 1988. *Effects of Aircraft Noise and Sonic Booms on Domestic Animals and Wildlife: A Literature Synthesis*. USFWS, National Ecology Research Center, Fort Collins, CO (AFESC TR 88-14; NERC-88/29) June 1988]. It is also recognized that some species are more sensitive to noise than others. However, there are no definitive studies on the adverse effects of noise on wildlife and no noise standards exist for wildlife. Most wildlife species are adversely affected by noise and human activities, but no wildlife species known to occur in the vicinity of the Project area were identified as being unusually sensitive to noise. The measures provided in Section 4.1.5.4. of the Draft EIS/EIR to mitigate and compensate for the adverse effects of the Project on wildlife include mitigation and compensation for the adverse effects of the Project noise on wildlife.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:409: See Response to Comment I009:042.

Response to Comment I013:410: (See Also Response to Comment I010:002) The discussion in Section 1.6.1. of the BLM's policies and authorizing actions quoted all of those portions of FLPMA and the surface management regulations (43 CFR 3809) deemed particularly relevant.

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

Revisions to the Final EIS/EIR: None.

Response to Comment I013:411: Both statements are correct. Section 3.9.1. (page 3-100) of the Draft EIS/EIR indicates that there are ". . . lands under private ownership along the southernmost end of the overbuilt 92 kV/34.5 kV transmission line corridor . . . ," and that "essentially all of those lands under private ownership along the southernmost end of the overbuilt 92 kV/34.5 kV transmission line corridor are also within the boundaries of the Felicity Specific Plan Area, which is currently under development by the ICPBD."

Revisions to the Final EIS/EIR: None.

Response to Comment I013:412: (The Following Response is Also Applicable to Comments I013:414 and I015:014.) The language in the "No Buffer Zone" policy of Section 103(d) of the California Desert Protection Act of 1994 (quoted in Section 4.1.9.2. [page 4-106] of the Draft EIS/EIR) makes it clear that only the direct effects of the Proposed Action on the wilderness areas can be assessed for their effects on wilderness values themselves; the indirect effects of the Proposed Action on these wilderness areas must be evaluated without reference to the areas' wilderness characteristics and values. Thus, the Draft EIS/EIR differentiated between the potential impact of the Project to recreational users, whether inside or outside of the wilderness areas, and the indirect effects of noise and lights to the wilderness areas simply because they are wilderness areas. The potential impact on recreational users would occur whether they were inside or outside a wilderness area.

The two mentioned wilderness study areas were converted to wilderness by the Desert Protection Act of 1994, as stated in Section 3.9.2.1. (page 3-103) of the Draft EIS/EIR, which is why there is no discussion of wilderness study areas in the Draft EIS/EIR.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:413: (The Following Response is Also Applicable to Comments I006:008, I013:414 and J008:008.) (See Also Responses to Comments F002:015 and I013:112.) The analysis of the impacts to recreational resources following the completion of final reclamation does not state that recreational values would be returned to pre-project levels. The quoted phrase states only that, with the removal of the perimeter fence, opportunities for these dispersed recreational activities would again be available within the Project mine and process area. With the removal of

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

the perimeter fence, the approximately 269 acres within the Project mine and process area which would be undisturbed by Project activities would again be available for recreational activities, and the through-flowing washes would again be available for hiking and hunting. The analysis in this section states that the vegetation and wildlife habitat values, which are the basis for some of the existing recreational use of the Project mine and process area, would recover slowly, and specifically states that "Environmental education activities . . . would likely also be substantially reduced or displaced by the Project during the life of the project and after because some of the cultural resources would be inaccessible, while others would be permanently lost." Further, as stated in Section 2.1.11.2. (page 2-34) of the Draft EIS/EIR, "The post-mining reclamation goals at the Project are to reclaim the area to a stable, functioning landscape unit/ecosystem to allow for similar, but not identical, land uses, including wildlife habitat and recreation, as currently exist . . . ." (*"emphasis added"*)

The Project will not result in any "abandoned" facilities, nor any "tailings piles," nor does it claim that there are there any specific recreational values for any open pits. We are not aware of any "studies" describing recreational uses of former open pit mines. However, both working and non-working mines are sources of recreation. The former Coliseum mine pit, in San Bernardino County, California has been reclaimed, the access ramp in the pit was retained, and the pit lake serves as an important water source for big horn sheep and other wildlife. Rockhounds visit the contoured and reclaimed area seeking pyrite crystals and other colorful rocks on the former dumps The open pit of the inactive Christmas mine, a copper mine in Arizona, holds seasonal water that supports a variety of wildlife. Operating open pit mines, such as the Phelps Dodge mines in Morenci, and Miami, and the Bagdad and the Ray mines, all in Arizona; as well as the closed copper mine pit at Ajo, Arizona provide recreational and educational opportunities to many travelers, recreationists, geology students and rock and mineral collectors. Crestmore Quarry, a working limestone quarry in Riverside, California has been an outstanding mineral collecting site for at least 50 years. The Kaiser Permanente Eagle Mountain iron mine in San Bernardino County, California until recently has been a recreational mineral collecting and a place of earth science study for years since the mine closed. In fact, few accessible closed mines have not been destination sites for recreationists, from history buffs to mineral-detector "treasure hunters."

Deer and quail hunter concern over affects of the proposed mine are centered on what happens to the desert washes within the project boundary. Reclamation of the affected washes would return the main and many of the secondary washes to wildlife habitat.

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

Currently operating open pit mines, such as the Phelps Dodge mine in Morenci, Arizona and the Bagdad and the Ray mines in Arizona, as well as the closed copper mine pit at Ajo, Arizona provide recreational and educational opportunities to many geology students and rock and mineral collectors.

As stated in Section 4.1.9.2. (page 4-108) of the Draft EIS/EIR, "While not intended, the proximity of the Project mine and process area to Indian Pass Road could attract some visitors to the area as sightseers to observe the large mine equipment and active mining operations." The additional educational activities created by the Project are incidental and well below the level of significance.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:414: See Responses to Comments I013:412 and I013:413.

Response to Comment I013:415: Comments noted. Although Section 4.1.7.4. (visual resources, page 4-100) of the Draft EIS/EIR notes that unavoidable physical changes in the existing contour and character of the Project area would result in significant and unmitigable impacts to the visual character of the area, Section 4.1.9.2. (recreational resources, page 4-108) of the Draft EIS/EIR concludes that

> "There are no unique recreational resources within the Project area, and comparable recreational opportunities would still be available in large areas of public land similar to, but outside of, the Project area . . . . There are approximately 4.4 million acres of BLM Class L lands in the CDCA which are generally available for dispersed recreation. Given the availability, both nearby and in other areas of eastern Imperial County, of large areas with similar, although not identical, opportunities for dispersed recreation, the effects of the Project on recreation resources would be below the level of significance."

Revisions to the Final EIS/EIR: None.

Response to Comment I013:416: See Responses to Comments I012:032 and I015:002.

Response to Comment I013:417: See Response to Comment I015:014.

Response to Comment I013:418: See Response to Comment I013:418.

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

Response to Comment I013:419: Comment noted.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:420: See Responses to Comments I010:006 and I012:042.

Response to Comment I013:421: See Response to Comment I012:042.

Response to Comment I013:422: See Responses to Comments I010:006 and I012:042.

Response to Comment I013:423: See Responses to Comments I010:006 and I012:042.

Response to Comment I013:424: Comments noted.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:425: Comments noted.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:426: Comments noted.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:427: Comments noted.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:428: Comments noted.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:429: Comments noted.

Revisions to the Final EIS/EIR: None.

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

Response to Comment I013:430: See Responses to Comments I010:006 and I012:042.

Response to Comment I013:431: See Responses to Comments I010:006 and I012:042.

Response to Comment I013:432: (See Also Response to Comment I013:230.) Figure 3.2 of the Draft EIS/EIR presents a Simplified Geologic Cross Section through the West Pit.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:433: See Responses to Comments I010:006 and I012:042.

Response to Comment I013:434: (The Following Response is Also Applicable to Comments I013:437, I013:438, I013:439, I013:440, I013:441, I013:442 and I013:443.) Section 5.3.1. (pages 5-9 through 5-11) of the Draft EIS/EIR specifically discusses how the water-related projects affect the ground water basin and the cumulative impacts of ground water pumping for the Project.

> "The cumulative maximum total of annual ground water consumption from the basin by the relevant identified cumulative projects, including the Proposed Action, totals approximately 6,306 afy . . . . the annual consumption of ground water by all of these wells together is a relatively small percentage (a maximum of approximately twenty (20) percent) of the gross estimated recharge to the Amos-Ogilby-East Mesa Basin. The All American Canal Lining Project, if constructed, would probably result in only an estimated reduction in recharge to the basin of 6,770 afy (two-thirds (2/3) of the 10,000 afy assumed to seep into the Amos-Ogilby-East Mesa Basin). However, even with this reduction, the net recharge to the Amos-Ogilby-East Mesa Basin would still exceed the cumulative ground water consumption from the identified projects and uses."

> "The maximum total estimated cumulative annual consumption of ground water by the cumulative projects within the Amos-Ogilby-East Mesa Basin also represents approximately 0.003 percent of the ground water currently estimated stored in the Amos-Ogilby-East Mesa Basin (or approximately 0.005 percent of the ground water currently estimated stored in the Amos-Ogilby Basin alone)."

"Response to Comment I013:255B" also estimated the amount of ground water stored in the Ogilby subbasin alone (if the hydraulic connection between the subbasins is ignored), which is

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

approximately 63,000,000 acre-feet. The maximum total estimated cumulative annual consumption of ground water by the cumulative projects within the Ogilby subbasin alone is approximately 0.007 percent of the ground water currently estimated stored in the Ogilby subbasin alone (the wells to be used by the Mesquite Mine and the Mesquite Regional Landfill are located in the Amos subbasin, not Ogilby subbasin). Even with this calculation, what is stated in Section 5.3.1. (page 5-11) of the Draft EIS/EIR ("Based upon ground water drawdown estimates provided for the Project wells alone (see Section 4.1.3.2.2.), and because these cumulative projects are widely scattered and the ground water consumption distributed, there should be no significant interference between the projects from their individual uses of the ground water resources.") remains correct.

The proposed transfer of Colorado River water out of the Imperial Valley will not affect the availability of ground water in the Ogilby subbasin in any way substantially different from that of lining the All American Canal, and this canal lining project is one of the principal water conservation projects available to conserve water which would be transferred out of the Imperial Valley. As stated in Section 3.3.2.1. (page 3-22) of Draft EIS/EIR, the current recharge estimate of 30,000 acre-feet per year into the basin was calculated by taking into account the estimated seepage to Mexico:

> "Since the lining of the first 45 miles of the Coachella Canal in the 1980's essentially eliminated leakage from the Coachella Canal, total recharge to the basin was roughly estimated in 1993 at 100,000 afy (Environmental Solutions, Inc. 1993a). However, it is currently believed that the distribution of low permeability materials to the north and east of the All American Canal, as well as the extensive pumping of ground water south of the All American Canal in Mexico, may limit the seepage of ground water from the All American Canal into the Amos-Ogilby-East Mesa basin (Personal Communication, Carol Brown, United States Bureau of Reclamation [USBR], April 21, 1997; Watt 1991). Therefore, the annual recharge into the Amos-Ogilby-East Mesa Basin may be more correctly conservatively estimated at approximately 30,000 afy; 20,000 afy of seepage from the Colorado River and 10,000 afy of leakage from the All American Canal."

We are unaware of any long-term monitoring of ground water levels and quality in the Ogilby subbasin.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:435: See Response to Comment I013:255B.

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

Response to Comment I013:436: See Response to Comment I012:042.

Response to Comment I013:437: See Response to Comment I013:434.

Response to Comment I013:438: See Response to Comment I013:434.

Response to Comment I013:439: See Response to Comment I013:434.

Response to Comment I013:440: See Response to Comment I013:434.

Response to Comment I013:441: See Response to Comment I013:434.

Response to Comment I013:442: See Response to Comment I013:434.

Response to Comment I013:443: See Response to Comment I013:434.

Response to Comment I013:444: See Response to Comment I012:041.

Response to Comment I013:445: See Response to Comment I012:041.

Response to Comment I013:446: See Response to Comment I012:041.

Response to Comment I013:447: See Response to Comment I012:041.

Response to Comment I013:448: See Response to Comment I012:023.

Response to Comment I013:449: See Responses to Comments A001:005 and I012:039.

Response to Comment I013:450: See Responses to Comments A001:005 and I012:039.

Response to Comment I013:451: Comment noted. However, the statements made in Section 6.1 are entirely consistent with the assessment of effects made in Chapter 4 of the Draft EIS/EIR. In Section 6.1, the Draft EIS/EIR notes that after reclamation the Project area would be usable for the majority of its previous land uses, which are described in Section 6.1 (page 6-1) as mineral exploration, dispersed recreation, and wildlife habitat," and in Section 3.9.2 (page 3-102) as "mineral

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

exploration and development, aerial military training overflights, utility corridors, and dispersed recreational activities by the general public." Section 4.1.9.2 of the Draft EIS/EIR (page 4-107) determined that following completion of reclamation, "opportunities for hunting, hiking, camping and other dispersed recreational activities would again be available in the Project mine and process area," which is entirely consistent with the statements made in Section 6.1 of the Draft EIS/EIR. Section 4.1.5.3.1 of the Draft EIS/EIR (page 4-51) states that "Wildlife would eventually return to the Project mine and process area as vegetation reestablishes and disturbed surfaces are reclaimed or recover. However, the projected period before conditions return to an approximate pre-Project status with respect to wildlife carrying capacity may exceed several decades following completion of the active life of the Project." These statements are again entirely consistent with the statements made in Section 6.1 of the Draft EIS/EIR. Archaeological, cultural, and/or religious resources are not typically considered land uses, and have not been considered as such in the Draft EIS/EIR and, therefore, were not included in Section 6.1. when discussing reestablishment of existing land uses. The affects of the Project on these resources is extensively discussed in Section 4.1.6. of the Draft EIS/EIR, and found to be significant even following the application of recommended mitigation measures.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:452: This information is omitted from Section 6.2. However, Section 4.1.6.4. (page 4-87) of the Draft EIS/EIR explicitly states that the Indian Pass Running Man ATCC, including the Trail of Dreams; seven multi-component archaeological sites; and twelve prehistoric trail sites in the Project mine and process area would not be avoided by the Proposed Action, which would result in significant and unavoidable impacts to these resources, even after implementation of the mitigation measures. Section 4.1.6.2. of the Draft EIS/EIR (page 4-83) states that the Quechan believe that the affects of the Project on the Indian Pass Running Man ATCC and the Trail of Dreams would prevent the Quechan from using this area for religious and educational purposes, which would also result in a significant, adverse effect.

Revisions to the Final EIS/EIR: The following is added as a new paragraph immediately following the second paragraph on page 6-2 (Section 6.2) of the Draft EIS/EIR:

> "Significant archaeological and cultural resources, including the Indian Pass Running Man ATCC and the Trail of Dreams, would be permanently altered within the Project mine and process area. This would be a significant irreversible and irretrievable commitment of these

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

resources, which the Quechan believe would permanently alter (or destroy) their ability to use the area for religious and cultural education purposes."

Response to Comment I013:453: (The Following Response is Also Applicable to Comment I013:454.) (See Also Response to Comment I013:455.) Analysis of growth-inducing impacts is required by CEQA only. CEQA does not require consideration of every conceivable development scenario, only an analysis of the most probable development patterns, assuming the general form, location and amount of such development that seems reasonable. Section 2.1.11.2.4 (page 2-41) of the Draft EIS/EIR, discussing structure demolition and facility removal, states that the Reclamation Plan includes the removal of all Project roads, buildings and ancillary facilities, the onsite electrical substation and 92 kV/13.2 kV transmission line; and the ground water production well pumping facilities. The ground water wells would be plugged and abandoned. Thus, these facilities would not exist subsequent to completion of the Project, and could not be growth-inducing, so are not discussed in Section 6.3 of the Draft EIS/EIR. Section 6.3 of the Draft EIS/EIR also notes that the number of Project employees would not be sufficient to lead to the expansion of housing, schools or other supporting infrastructure.

Section 3.9.2 of the Draft EIS/EIR notes that the Project area is in a remote area of Imperial County: the nearest residence (Gold Rock Ranch) is located seven miles southwest of the Project mine and process area, and no other permanent residences are known to exist within ten miles of the Project mine and process area. There are no private lands within the Project area, and only two small parcels within a five-mile radius of the Project area. There is no indication of any development pressures in or around the Project area, or of obstacles to growth that would be met by the infrastructure even if it were left in place.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:454: See Response to Comment I013:453.

Response to Comment I013:455: (The Following Response is Also Applicable to Comment I013:456.) (See Also Response to Comment I013:453.) As was also true in the comment's example of the Mesquite Regional Landfill, any subsequent development that may desire to use any of the infrastructure from the Imperial Project would need to be approved by the appropriate decision-makers, and a subsequent environmental analysis conducted. As noted in Section 1.2. of the Draft EIS/EIR, an EIS/EIR is an informational document, and does not control an agency's

RESPONSE TO COMMENT LETTER I013 RECEIVED FROM EDIE HARMON, SIERRA CLUB; AIMEE BOULANGER, MINERAL POLICY CENTER; NORBERT RIEDY, THE WILDERNESS SOCIETY; AND PAUL SPITLER, CALIFORNIA WILDERNESS COALITION, DATED APRIL 13, 1998

decision or dictate whether additional growth would occur in the area. Thus, there can be no absolute "assurance" that projects would not be proposed in the future.

Revisions to the Final EIS/EIR: None.

Response to Comment I013:456: See Response to Comment I013:455.

Response to Comment I013:457: (See Also Response to General Comment 001 and Comments I013:001 through I013:456.) Comment noted.

Revisions to the Final EIS/EIR: None not otherwise described in responses to specific comments.

I014

Tijuana River National Estuarine Research Reserve
Tijuana Watershed International MAB Project
3751 Ray st.,San Diego,Ca 92104 619-297-0931 Fax 619-297-1407
internet Fred.Cagle@sdsu.edu

Area Manager
BLM El Centro RA
1661 South 4th St.
El Centro, CA 92243

4/13/98

Dear Person,

001 The Glamis Imperial Mine Project represents a significant environmental and cultural threat to the desert. The following points should be considered before any further action is taken toward approval of the mining request.

002 1. The draft environmental impact statement gives a very brief description of the geology and no geochemistry of the ore body. Page 3-9 mentions that the gold and silver mineralization occurs in Jurassic granitic gneiss in the upper plate of the Choclate Mountains thrust. It states that the analysis of drill information indicates that the deposits geology is similar to that observed in the nearby Picacho and Mesquite Mine gold deposits. The mineralization occurs in sub-tabular blocks averaging 200-300 feet thick and is structurally controlled by the intersection of low angle and high angle shear zones which are localized to the ore body. Gold and silver are associated with limonite and hematite in highly sheared and brecciated gneiss...

A. Based on the reported levels of gold found in the assay reports given in the Annual Report the levels of gold found at the Glamis site are considerably lower than those found at the other mentioned sites. In addition there appears to be considerable questions about the size of the ore body actually present at this site. If the amounts of gold are much more localized than suggested and the reserves are found once mining has begun to be as economically nonviable as suggested by the sparce information presented In the EIR are there:

003 1. An economic analysis based on a range of values for the low grade deposits present which could allow a evaluation of the economics of this area from an ecotourism viewpoint versus allowing mining to occur?

004 2. Are there arrangements ,if further investigation as to the size of the

ore body determines that the mine is not economically viable under current gold values to return the site to its current condition?

005 3. Comparison to other Mining areas(Picacho and Mesquite Mine) does not appear to be valid justification for this mine, especially in and area as affected by faulting as this appears to be.

006 4. One would like to see a much more detailed analysis of the size and assay quantities of the proposed ore bodies than are present in the draft EIR which would allow a more accurate comparison of the value of mining versus the value of the land as a cultural and ecotourism resource.

007 B. Water: Page 3-22 states that although the mine is located only seven miles from the Colorado river That the USG has determined that the mine is outside the Colorado river aquifer. As the Colorado river is the principle source of recharge for the Amos-Ogilby -East Mesa Basin Aquifer and that several of the wells are outside of the USGS study it appears that are serious questions

as to whether there is ground water connection with the Colorado River. In light of the use of this water for more than 2 million people one would like to see the Bureau of reclamation studies of the boundaries of the Colorado River aquifer expanded to cover all areas covered by the intake and outflow of the proposed mine. In addition, with the current interest in the Salton Sea and significant amounts of federal funds to be expended for its cleanup, we would like to see studies that demonstrate that this mining proposal will not contribute any levels of pollution to the extremely endangered sea.

008 C. The BlM has a history of applying Areas of Critical Environmental Concern to areas such as the Kuchamaa lands surrounding Tecate Peak and little Tecate Peak for the protection of Native Americn Religious heritage. The importance of this region to the Quechan Indians is at least the same level of the Tecate peak area and the region represents the same cultural links for the Quechan as the Kuchamaa does for the Kumeyaay. As part of the economic analysis of this site its cultural value should be utilized.

009 D. There is no evidence available that the Micropyle woodlands can be restored and that any mitigation is possible. Therefore, no loss of these woodlands should be allowed.

Thank You for your consideration,

Fred Cagle Phd., PA

In cooperation with Southwest Center for Environmental Research and Policy and San Diego State University, Universidad Autonoma de Baja California, Colegio de la Frontera Norte, Habitat Integral, S.C.

RESPONSE TO COMMENT LETTER I014 RECEIVED FROM FRED CAGLE, Ph.D., PA, TIJUANA RIVER NATIONAL ESTUARINE RESEARCH RESERVE, DATED APRIL 13, 1998

Response to Comment I014:001: Comment noted.

Revisions to the Final EIS/EIR: None.

Response to Comment I014:002: (The Following Response is Also Applicable to Comments I014:003, I014:004, I014:005, I014:006 and I027:004.) The referenced statement on page 3-9 (Section 3.1.2.) of the Draft EIS/EIR comparing the Imperial Project to the Picacho Mine and the Mesquite Mine actually states "Analysis of drill information indicates that the [Imperial] deposit's geology is similar to that observed at the nearby Picacho Mine and Mesquite Mine gold deposits." This is a comparison of the geology of the deposits, not of the assay values, nor is it intended as a justification for the mining of the Imperial Project ore. As noted in Section 3.1.1. (page 3-4) of the Draft EIS/EIR, all of the mining areas have complex faulting. ["A complex geologic setting exists within the area as evidenced by detachment fault features identified at the Picacho Mine and American Girl Mine and intricate strike-slip fault systems identified at the Mesquite Mine (Tosdal, et al. 1991)."]

As described in Section 2.1.11. of the Draft EIS/EIR, reclamation of the Project area would be conducted both concurrently with operations and following completion of operations. Bonding would be required to ensure the completion of reclamation if Project operations are terminated early. However, reclamation does not consist of "returning the area to its current condition;" as stated in Section 2.1.11.1. (pages 2-32 and 2-33) of the Draft EIS/EIR, the post-mining reclamation goals are to: "reclaim the Project mine and process area to a stable, functioning landscape unit/ecosystem to allow for similar land uses as currently exist; establish conditions that would promote the long-term development of a vegetation community typical of the local area; and produce reclaimed areas that are visually and functionally compatible with the surrounding topography."

The level of detail requested by the comment regarding the size and assay values of the ore bodies is the proprietary and confidential information of the Applicant and is not available to the public, either in the EIS/EIR or otherwise. See Response to Comment I015:007 for a discussion of a "comparative values" test for the use of the land.

The BLM responded to public requests for performance of an examination of valid existing rights (a validity exam) for the Glamis Imperial Corporation mineral claims of the Imperial Project. An investigation was initiated, but never completed, on the Glamis mining claims. Prior to completing a valid existing right determination, BLM chose to complete the EIS/EIR on the project to conclude

RESPONSE TO COMMENT LETTER I014 RECEIVED FROM FRED CAGLE, Ph.D., PA, TIJUANA RIVER NATIONAL ESTUARINE RESEARCH RESERVE, DATED APRIL 13, 1998

whether or not the Project would cause unnecessary or undue degradation, or undue impairment of resources of the CDCA.

Revisions to the Final EIS/EIR: None.

Response to Comment I014:003: See Responses to Comments I014:002 and I015:007.

Response to Comment I014:004: See Response to Comments I014:002.

Response to Comment I014:005: See Response to Comments I014:002.

Response to Comment I014:006: See Response to Comments I014:002.

Response to Comment I014:007: (See Also Response to Comment G002:002.) The impacts of the Project on water quality are discussed in Section 4.1.3.1.2. (pages 4-8 through 4-15) of the Draft EIS/EIR. As stated in Section 3.3.1. (page 3-10) of the Draft EIS/EIR, ". . . surface water which flows from or through the general vicinity of the Project area (herein termed the "Indian Wash Drainage Basin") is prevented from reaching the Salton Sea by the Algodones Sand Dunes, a natural topographic constraint located approximately 12 miles downstream of the Project mine and process area to the southwest." Thus, there is no potential for activities conducted within the Project area to affect the Salton Sea.

Revisions to the Final EIS/EIR: None.

Response to Comment I014:008: See Responses to Comments D002:004 and I013:337.

Response to Comment I014:009: See Response to Comment I013:168.

THE DESERT PROTECTIVE COUNCIL, INC
A NON-PROFIT ORGANIZATION
P.O. BOX 2312 • VALLEY CENTER • CALIFORNIA 92082

I015

DESERT PROTECTIVE COUNCIL
ADVISORY PANEL

SYLVIA BROADBENT
Professor of Archeology

GEORGE W. COX
Conservation Ecologist

PETE DANGERMOND
Park Consultant

MARY DEDECKER
Botanist

BETTY FORGEY
Desert Tortoise Activist

MICHAEL FROME
Author

AUGUST FRUGE
Conservationist

LARRY IWERKS
Wilderness Advocate

WILBUR MAYHEW
Professor of Zoology

ART MONTANA
Professor of Earth Sciences

ALLAN MUTH
Biologist

KAREN SAUSMAN
ex-Park Director

ROBERT STEBBINS
Herpetologist

LEONARD VINCENT
Professor of Biology

FRANK WHEAT
Attorney

HOWARD WILSHIRE
Geologist

April 13, 1998

Mr. Douglas Romoli
United States Bureau of Land Management
1661 South Fourth Street
El Centro, California 92243

Re: Imperial Project

Dear Mr. Romoli:

001 Thank you for the opportunity to comment on the proposed Imperial Project. The Desert Protective Council stresses its opposition to the Proposed Action as outlined in the Draft EIS/EIR dated November 1997. The Desert Protective Council further urges that the BLM adopt the No Action Alternative in the Final EIS/EIR on the Proposed Action.

Following are our comments on the November 1997 Draft EIS/EIR:

002 **The DEIS/EIR fails to meet adequacy requirements under 40 CFR § 1502.1 and 14 CCR § 15151 in that the socioeconomic factors only address job creation and not other important socioeconomic impacts such as financial responsibility in the event of a hazardous leak or destruction of a sacred religious landscape.**

The purpose of the DEIS, as required under 40 CFR § 1502.1, is to "provide a full and fair discussion of significant environmental impacts." Additionally, 14 CCR § 15151 provides that, "[a]n EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences." Further, 14 CCR § 15131 (b) explains how social and economic factors are to be presented in an EIR:

To safeguard for wise and reverent use by this and succeeding generations those desert areas of unique scenic, scientific, historical, spiritual and recreational value, and, to educate children and adults to a better understanding of the deserts.

"Economic or social effects of a project may be used to determine the significance of physical changes caused by the project. For example, if the construction of a freeway or rail line divides an existing community, the construction would be the physical change, but the social effect on the community would be the basis for determining that the effect would be significant. As an additional example, if the construction of a road and the resulting increase in noise in an area disturbed existing religious practices in the area, the disturbance of the religious practices could be used to determine that the construction of the road and the resulting noise would have a significant effects on the environment. The religious practices would need be analyzed only to the extent to show that the increase in traffic and noise would conflict with the religious practices."

Currently, the DEIS/EIR quantifies the socioeconomic impact of the Proposed Action as beneficial. The question is then raised as to who will actually benefit. The DEIS/EIR further indicates that only positive economic benefits would accrue. True, the DEIS/EIR reports that the Proposed Action will create approximately 80 new jobs; the project may also generate over 200 temporary jobs during construction (DEIS/EIR Page 4-110).

It is also noted that the closest urban center is Yuma, Arizona approximately twenty miles from the proposed site. Thus, it is a fair assumption that a good number of mine employees will come from the Yuma area. As the Proposed Action is located on public land which has not been patented under the Mining Law of 1872, neither the County of Imperial, the State of California nor the federal government will recoup direct tax revenues from the Proposed Action. Positive economic benefits to California and to Imperial County appear to be minimal at best.

Further, the potential for adverse economic consequences are not addressed in the DEIS/EIR. The failure of the DEIS/EIR to adequately address the American public's financial responsibility for clean up or reclamation if the operator abandons the project violates the full and fair discussion clause of 40 CFR § 1502.1 and the sufficient information clause under 14 CCR § 15151. As the Proposed Action will be located on unpatented federal land, it is the United States government which retains title and the American public who will pay if the operator abandons the project or creates an environmental hazard which exceeds the bond amounts in place for reclamation. There is abundant evidence that suggests

that environmental cleanup would easily exceed the reclamation bond amounts of $2,740,000.00 currently proposed in the DEIS/EIR (DEIS/EIR Page 2-49). For example, the clean-up of the Summitville Gold Mine disaster has cost taxpayers over $120 million. Summitville, a cyanide heap-leach open pit mine similar to the proposed Action but located in Colorado, was abandoned by its operator whose financial assurances totaled only $4.5 million. (see, *Summitville, an expensive lesson*, High Country News, Jan. 19, 1998 at 10). The potential financial obligation of the California public must be fully addressed in Final EIS/EIR.

Further, analysis of socioeconomic effects are not limited to economic effects exclusively. Here, destruction of sacred Native American pilgrimage trails in order to develop the Proposed Action would permanently disrupt sacred Quechan religious practices and, therefore, constitutes a severe social impact which the DEIS/EIR has admitted creates a significant effect.

The DEIS/EIR should include both adverse social impact of the Proposed Action and potential harmful economic factors, as contrasted with potential beneficial economic effects, in the specific section addressing socioeconomic factors in order to provide a full and fair discussion as required under 40 CFR § 1502.1 and to assure that decision-makers have sufficient information with which to make an intelligent decision as mandated by 14 CCR § 15151.

003 The Complete Backfill alternative cannot be dismissed as an infeasible alternative to partial reclamation without inclusion of a cost-benefit analysis in the DEIS/EIR as required by 40 CFR § 1502.23.

40 CFR § 1502.23 provides that, "if a cost-benefit analysis relevant to the choice among environmentally different alternatives is being considered for the proposed action, it shall be incorporated by reference or appended to the statement as an aid to evaluating environmental consequences. To assess the adequacy of compliance with section 102(2)(b) of the Act the statement shall, when a cost-benefit analysis is prepared, discuss the relationship between the analysis and any analyses of unquantified environmental impacts, values and amenities."

Here, the BLM rejects the complete backfill reclamation plan on the basis that Glamis Imperial Corporation has stated it is financially impracticable (DEIS/EIR Pages 2-62,63) because backfilling of the East Pit is reported to exceed

$80 million. A cost-benefit analysis specifically addressing this alternative should be included in the Final EIS/EIR. Personal communication between the BLM and a representative of the real party in interest stating that the alternative is financially impracticable constitutes hearsay and is not supported by facts in the record. A reliable cost-benefit analysis is warranted under 40 CFR § 1502.23

The DEIS/EIR acknowledges that the Proposed Action will have a significant, unmitigatable effect on views of the desert wilderness from all vantage points in the currently undeveloped area which is primarily used by the Quechan Indians for religious observances and the general public for camping and day hikes. While the Project is scheduled to operate for twenty years, reclamation of the mine site as proposed will leave a permanent scar on the visual landscape in the form of a massive, terraced 800 foot deep pit surrounded by boulders to protect against intrusion. This fact in itself stretches any possible definition of the term reclamation. The desert wilderness area will be irreparably harmed by the Proposed Action.

Admittedly, the complete backfill alternative would not replace the Native American cultural resources destroyed by the project. It would, however, go far in mitigating the significant visual effects of the Proposed Action. An accurate cost-benefit analysis prepared in accordance with 40 CFR § 1502.23 would assist the decision-maker in assessing the true costs and potential benefits of this alternative.

004 The DEIS/EIR violates adequacy requirements of 40 CFR 1502.1 and 14 CCR 15151 as it fails to address effects from reasonably foreseeable waste releases.

40 CFR § 1502.1, requires that the EIS "provide a full and fair discussion of significant environmental impacts." Further, 14 CCR § 15151, provides that, "[a]n EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences."

The DEIS/EIR does not include specific information on potential environmental hazards associated with the cyanide heap-leech mining process. For example, the EPA Sector Notebook Project on Mining, Exhibit 20, lists well over fifty (50) waste releases, at mines throughout the United

States utilizing the heap-leech process, including the release of cyanide, pregnant and leaching solutions from 1985 to 1995. Three of those releases occurred in Imperial County and one release of 1,200 gallons of cyanide solution was inadvertently released at the Picacho mine owned by the operator of the Proposed Action. In addition, the San Diego Union recently reported that the Viceroy Castle Mountain Mine, a heap-leech mine operating in San Bernardino County has recently discovered leaks and has shut down a portion of its operation in an attempt to find the source (see, *Dreams of Gold: Mining's Massive Scale*, San Diego Union-Tribune, Jan. 20, 1997 at A-1).

Neither NEPA or CEQA require the DEIS/EIR to necessarily address a worst case scenario per se. However, the question is raised as to why the DEIS/EIR does not address such a potentially harmful and reasonably foreseeable hazard. Evidence indicates that waste releases occur frequently and are a common by-product of the heap-leech mining process. Desert Protective Council calls on the BLM to include full disclosure on causation, costs of clean-up and resulting harm of mine leaks in California and in Imperial County specifically. If the decision maker is uninformed as to the particular nature, short- and long-term environmental effects, and costs and methods of clean up of the various types of waste releases, specifically those occurring in the California desert region, the issue of the adequacy of the DEIS/EIR under 40 CFR § 1502.1 and 14 CCR § 15151 is raised. Failure to include information on leaks constitutes a failure to provide "a full and fair discussion" of reasonably foreseeable impacts under 40 CFR 1502.1 nor does it provide "sufficient information for the decision-maker" as required by 14 CCR 15151.

005 The possible expansion of the Proposed Action is a reasonably foreseeable event based on recent Imperial County precedent and thus, requires acknowledgment as a cumulative effect as required by 40 CFR 1508.7 and 14 CCR 15126(e).

40 CFR § 1508.7 defines cumulative impact as, "the impact on the environment which results from the incremental impact of the action when added to other past, present, or reasonably foreseeable future actions regardless of what agency. . . , or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." Additionally, 14 CCR § 15126(e) mandates that an EIR, "[d]escribe the cumulative and long-term effects of the

proposed project which adversely affect the state of the environment."

The DEIS/EIR does not address the possibility of expansion of the Imperial Project onto surrounding lands. The Proposed Action will be situated on acreage surrounded by countless lode claims many of which are owned by Glamis Imperial. In addition, other mine sites in Imperial County have consistently applied for and received approval for expansion or for other post-reclamation uses after initial project approval based on the argument that the infrastructure is already in place and the environment already disturbed (see,e.g., Mesquite Regional Landfill EIS/EIR, prepared by the BLM and the County of Imperial, June 1995). Because of the particular nature and history of mining in Imperial County, possible post-approval expansion of Proposed Action is reasonably foreseeable and should be addressed in the DEIS/EIR under cumulative effects.

The adequacy of the DEIS/EIR under 40 CFR § 1502.1 and 14 CCR § 15151 is further raised as post-approval expansion of this and other mines in County is not addressed.

006 The BLM has failed to give adequate consideration to other laws besides the Mining Law.

The Proposed Action calls for a cyanide heap-leech gold and silver mine which will be privately owned and managed on federal public land. The Desert Protective Council agrees that the BLM is authorized to protect and manage America's public lands. The Desert Protective Council further recognizes that the BLM's mission is to balance a variety of interests while preserving our nation's federal land resources. It is not, however, the BLM's primary responsibility to subsidize private industry on the public lands.

Desert Protective Council recognizes that the Bureau of Land Management must give due consideration to proposed mining actions similar to the Imperial Project as evidenced by the Mining Law of 1872 and the noninterference clause in FLPMA.

However, the BLM is also guided by other important policies and Congressional mandates none of which are superseded by the 1872 Mining Act or subsequent mining laws. The DEIS/EIR indicates that the Proposed Action will be located in the California Desert Conservation Area (43 U.S.C.A. § 1781) and while multiple use is encouraged under FLPMA, the region has

been specifically recognized by Congress as "a fragile ecosystem which is easily scarred and is also slow to heal."

The Bureau of Land Management Surface Management Regulations 3809 calls on the agency to "prevent unnecessary or undue degradation. . .which may result from operations authorized by the mining laws."

Further, 3809.2-2(e)(1) states in relevant part that the agency or any operator,

> "shall not knowingly disturb, alter, injure or destroy paleontological remains, historical or archaeological sites, structures or buildings."

Approval of the Proposed Action is directly contrary to these regulations.

In addition, 14 CCR § 15387 (App. K): Archaeological impacts, II. states that "Public agencies should seek to avoid damaging effects on an archaeological resource whenever feasible." In addition, 14 CCR § 15387 (App. K) says that

> "In-situ preservation of a site is the preferred manner of avoiding damage to archaeological resources. Preserving the site is more important than preserving the artifacts alone because the relationship of the artifacts to each other in the site provides valuable information that can be lost when the artifacts are removed. Further, preserving the site keeps it available for more sophisticated future research methods. Preservation may also avoid conflict with religious and cultural values of groups associated with the site."

In accord with these policy goals, the United States Forest Service recently rejected a proposal for a ski resort on public lands in Northern California because the site would disrupt sacred Indian lands (see, *U.S. rejects resort on Shasta,* San Diego Union-Tribune, Feb. 21, 1997, at A-3).

Here, the BLM has determined that the proposed Imperial Project will have a significant effect on the environment as required under 14 CCR § 15387 (App. K). Mitigation measures outlined in the November 1997 DEIS/EIR require removing some artifacts from the proposed mine site. Further, the DEIS/EIR states that destruction of many important Quechan cultural and religious resources, including the sacred pilgrimage trails, is unavoidable as they are located within the proposed project area.

The DEIS/EIR as prepared by the BLM has interpreted the Mining Act as requiring approval of this project even though it violates other mandates imposed upon the BLM.

007 The Mining Laws do not require approval of the Proposed Action.

Even if the BLM interprets the Mining Law of 1872 as superseding other environmental laws and regulations, the Mining Law does not mandate approval of all applications to develop claims.

In a recent IBLA decision affirming the Administrative Law Judge, the BLM prevailed over a mining company who sought to develop placer claims in a scenic area in south central Idaho arguing that while Federal courts and this Board have previously rejected a comparative values test under the Mining Law of 1872, the test merits reconsideration. *United States v. United Mining Corporation, 142 IBLA 339, 355 (1998)*. The BLM argued successfully that lands having value for some other significant purpose (such as preservation of a natural feature, a scenic landscape, or a geologic resource) are not mineral lands within the mining laws. *Id.* In the instant matter, the proposed action will destroy a pristine desert environment valued by the local Native Americans for centuries for religious purposes due to the expansive and peaceful nature of the site and its central location between frequently visited sacred mountain peaks. Further, the site of the Proposed Action is also used by day hikers and campers who visit the area specifically to enjoy the expansive vistas and undisturbed desert landscape. Proposed Action is clearly contrary to these values.

Additionally, the proposed operator has indicated and BLM has echoed in the DEIS/EIR that the site has questionable mineral value and will require removal of 450 million tons of earth to extract 150 million tons of ore (DEIS/EIR S-5); further, DEIS/EIR indicates that areas immediately adjacent to proposed pits do not contain any "presence of minable resources in those areas". (DEIS/EIR Page 2-7). From the evidence currently in the record, it is certainly debatable whether the proposed site has value as mineral lands. The recent readoption of the comparative values test, as argued favorably by the BLM, warrants inclusion in the Final EIS/EIR in the interests of a full and fair discussion as required by NEPA and, further to assist a decision-maker with sufficient information as provided for by CEQA.

008 The DEIS/EIR fails to meet the requirements of 14 CCR § 15387 (App. K) because it fails to make provisions for archaeological sites accidentally discovered during construction.

The Proposed Action is located within an area in which there are many Native American historical and archaeological resources. The DEIS/EIS indicates that there will be significant adverse effects upon such cultural resources (See DEIS/EIR 4-81). Therefore, in order to comply with CEQA, one of the conditions imposed for a mitigation measure is to make provisions for archaeological sites accidentally discovered during the course of construction (See 14 CCR § 15387, App. K).

The DEIS/EIR indicates that since no paleontological resources have been found within the Project area, the Proposed Action will not have any effect on paleontological resources. The DEIS/EIR makes no further discussion of possible paleontological resources (See DEIS/EIR 4-81). This fails to meet the mitigation measures required by 14 CCR § 15387 (App. K), which state, "As part of the objectives, criteria, and procedures required by Section 2108 or as part of conditions imposed for mitigation, a Lead Agency should make provisions for archaeological sites accidentally discovered during construction. These provisions should include an immediate evaluation of the find. If the find is determined to be an important archeological resource, contingency funding and a time allotment sufficient to allow recovering an archaeological sample or to employ one of the avoidance measures should be available."

The DEIS/EIR must indicate evidence of a plan in the event archaeological sites are accidentally discovered during construction. Since the Project area is already within an archaeological area, it is quite possible that paleontological resources may be discovered during the mining process.

While the DEIS/EIR makes some provisions for archaeological resources that are already evident in the Project area, the DEIS/EIR fails to provide a plan for resources that have not yet been discovered, such as paleontological resources. The DEIS/EIR merely states that should an "unidentified cultural resource" be discovered during construction, then Applicant shall cease activities within the vicinity of the discovery

and notify the BLM (See DEIS/EIR 4-84). This statement is not adequate, because it fails to fully make provisions, such as contingency funding and time allotment to allow for recovery of the find, should an unidentified cultural resource be discovered. Since the DEIS/EIR is inadequate in making provisions for undiscovered archaeological resource, the DEIS/EIR fails to meet 14 CCR § 15387 (App. K).

009 The DEIS/EIR fails to meet the requirements of 14 CCR § 15387 (App. K) because it fails to provide a guarantee by Applicant to pay one-half the estimated cost of mitigating significant impacts to unique archaeological resources.

The requirements of 14 CCR § 15387 (App. K) state that "special rules" apply for mitigating significant effects on important archaeological resources. The DEIS/EIR indicates that even after implementation of mitigation measures, there will still be "significant and unavoidable" effects to cultural resources (See DESI/EIR 4-87). This being the case, mitigation is required in the form of a guarantee. When it is not feasible for a project to avoid affecting an important archaeological resource, the Project Applicant is required to guarantee to the Lead Agency to pay for one-half of the cost of mitigating the significant effect of the project on the archaeological resources (See 14 CCR § 15387, App. K). The DEIS/EIR fails to meet this provision by not providing any indication of a guarantee by the Applicant to the Lead Agency.

010 The DEIS/EIR fails to meet the requirements of 14 CCR § 15091 by failing to provide substantial evidence for finding that it is not economically feasible to avoid significant impact to cultural resources within the Project area.

The DEIS/EIR makes a finding that it will not be economically feasible to avoid all of the significant impacts to cultural resources within the Project area. Under 14 CCR § 15091 such a finding must be supported by substantial evidence in the DEIS/EIR. The DEIS/EIR fails to explain exactly why the Proposed Action cannot feasibly avoid all of the significant impacts to cultural resources within the Project area. Moreover, the DEIS/EIR fails to indicate whether the Proposed Action has any overriding considerations that outweigh the unavoidable significant impacts. By failing to provide substantial evidence and an explanation of why significant impacts to cultural resources are economically infeasible when no overriding

considerations are indicated the DEIS/EIR fails to meet the requirements of 14 CCR § 15091.

011 **The DEIS/EIR does not indicate how it complies with the policy established by the National Historic Preservation Act.**

The policy stated in the National Historic Preservation Act (16 USC 470) is to preserve historic and cultural resources of the Nation. The Proposed Project is in direct conflict with this goal because the Proposed Project will result in significant impacts which cannot be mitigated. The Project will result in the loss of data and historic context of Indian Pass-Running Man ATCC, seven multi-component archaeological sites, and twelve prehistoric trail sites (See DEIS/EIR 4-87).

The National Historic Preservation Act states that it is in the public interest to preserve cultural resources for future generations. Being that the Proposed Project is on federal lands held in the public trust, there is certainly a public interest to preserve the cultural resources which the Proposed Project would destroy. Despite mitigation measures, such cultural resources will still be adversely affected. Nonetheless, the DEIS/EIR fails to demonstrate how the Proposed Action would be in compliance with the goals of the National Historic Preservation Act.

012 **The DEIS/EIR fails to meet the requirements of 40 CFR § 1502.1 and 14 CCR § 15384 by failing to provide substantial evidence for the finding that the Proposed Action is consistent with the CDCA Plan as provided for by the Federal Land Policy and Management Act.**

The DEIS/EIR states that because the CDCA Plan is "a multiple use, sustained yield plan developed to manage various resources including mineral development", the Proposed Action is consistent with the CDCA Plan (See DEIS/EIR 4-105). This is a finding that is unsubstantiated by any evidence in the DESI/EIR. Findings within a DEIS/EIR must be supported by substantial evidence per 40 CFR § 1502.1 and 14 CCR § 15384.

In fact, the Proposed Action appears to be in conflict with the policy goals of the CDCA. The Proposed Action of an open-pit, cyanide heap-leach gold mine is located entirely within the California Desert Conservation Area. Congress has

found that "the California desert environment is a total ecosystem that is extremely fragile, easily scarred, and slowly healed" (See 43 CDCA § 1781). This being so, one of the policy goals of the CDCA is to "preserve the unique and irreplaceable resources" of the California desert. The Proposed Action is inconsistent with such a goal, because an open pit, cyanide heap-leach mine will destroy valuable and unique irreplaceable resources located in the Project area.

Hence, while the CDCA Plan does not prohibit mining operations, the CDCA Plan does require that a Proposed Action shall be subject to reasonable regulations in order to effectuate the purpose of the CDCA. The CDCA states that public lands of the CDCA area must be protected against "undue impairment". Since the DEIS/EIR has failed to provide substantial evidence that the Proposed Action will not cause undue impairment in the Project Area, the BLM's finding that the Proposed Action is consistent with the CDCA Plan is unreasonable. Therefore, the DEIS/EIR fails to meet the requirements established by 40 CFR § 1502.1 and 14 CCR § 15384 because it fails to provide substantial evidence for the finding that the Proposed Action is consistent with the CDCA.

013 The DEIS/EIR fails to meet the requirements of 40 CFR § 1500.2 and 14 CCR § 15125 by failing to discuss the inconsistencies between the Proposed Project and applicable general and regional plans.

In addition to being within a CDCA area, the Proposed Project is located within an area designated by the BLM as "Class L." The DEIS/EIR states that the development of mining operations in Class L areas (Limited Use) are authorized in such designated areas (See DEIS/EIR 4-105). Although mining may be permitted in a Class L designation, Class L areas are generally intended to "protect sensitive, natural, scenic, ecological, and cultural resources, and are typically managed to provide for generally lower-intensive, controlled, multiple use of resource, while ensuring that sensitive resources are not significantly reduced" (See DEIS/EIR 3-102). Mineral exploration in Project area will result in irreparable harm to the natural, scenic, ecological, and cultural resources. The Proposed Project is a project that will operate twenty-four hours a day, three-hundred and sixty-five days a year, for nearly twenty years (See DEIS/EIR S-5). Not only do such activities appear be in conflict with a "lower-intensive" use, but such mining operations will cause sensitive cultural and ecological resources to be diminished.

Although the Proposed Action appears to be inconsistent with the Class L designation and the CDCA Plan, the DEIS/EIR fails to analyze how the Proposed Project is in conflict with the policies of the CDCA and in an area designated as Class L. The DEIS/EIR is therefore fails to meet the requirements of 40 CFR § 1500.2 and 14 CCR § 15125, for failing to discuss these inconsistencies between the Proposed Project and the applicable regional plans.

014 **The DEIS/EIR fails to meet the requirements of 40 CFR § 1502.1 and 14 CCR § 15151 because the DEIS/EIR is not prepared with a sufficient degree of analysis to provide decision-makers with information to enable them to make a decision which intelligently takes account of environmental consequences.**

Two Wilderness Study Areas are in the vicinity of the Project area; Picacho Peak (CDCA 355(A) and Indian Pass (CDCA 355) (See DEIS/EIR 3-103). Congressional declaration of policy concerning "wilderness areas" states that these areas "shall be administered for the use and enjoyment of the American people in such manner as will leave them unimpaired for future use and enjoyment as wilderness, and so as to provide for the protection of these areas, the preservation of their wilderness character, and for the gathering and dissemination of information regarding their use and enjoyment as wilderness" (See 16 U.S.C.A. § 1131). The DEIS/EIR is inadequate because it fails to discuss how the Proposed Action will affect these two Wilderness Study Areas.

Furthermore, both Indian Pass Road and Hyduke Road are being considered for inclusion in the BLM's National Backcountry Byways program. This is a program that is intended to increase the awareness of scenic corridors that are "off the beaten path" (See DEIS.EIR 3-109). The DEIS/EIR does not provide an analysis of how moving Indian Pass Road per the Proposed Action and how the additional traffic on such road due to the Proposed Action may affect consideration for inclusion into the BLM's National Backcountry Byways program. Since the DEIS/EIR fails to adequately discuss each of these issues, the DEIS/EIR does not meet the requirements of 40 CFR § 1502.1 and 14 CCR § 15151.

015 **The DEIS/EIR fails to meet the requirements of 40 CFR § 1502.1 and 14 CCR § 15128 by failing to provide reasons that**

various possible significant effects of a project were determined not to be significant and therefore were not discussed in detail in the DEIS/EIR.

The DEIS/EIR indicates that "wildlife species which inhabit, move through, or forage within the approximately 1,340 acres of surface area to be disturbed within the Project would be subject to increase mortality or displacement as a result of the Proposed Action" (See DEIS/EIR 4-53). Nonetheless, the DEIS/EIR concludes that because there is "substantial open space" surrounding the Project mine and process area there are no significant effects upon wildlife and wildlife movement.

Under 40 CFR § 1502.1 and 14 CCR § 15128, a DEIS/EIR must supply reasons for effects that are not found to be significant. Mere conclusive statements are not adequate. The DEIS/EIR is lacking in any study or evidence that the blasting noise from the project, the night-time lighting, and the decrease in foraging area will not have a significant effect upon wildlife. The DEIS/EIR simply speculates that because there is an alternative habitat outside the Project area, such impacts will not be significant upon wildlife. By taking such an approach, the DEIS/EIR is ignoring that the Proposed Action will not only effect wildlife in the immediate vicinity of the Project area, but also outside the Project area. Since the DEIS/EIR is lacking in reasons to support its finding of no significant effects, the DIES/EIR has failed to meet the requirements of 40 CFR § 1502.1 and 14 CCR § 15128.

016 The DEIS/EIR fails to meet the requirements of 40 CFR § 1508.7 and 14 CCR § 15355 by failing to discuss all the cumulative adverse effects that will impact the desert tortoise, which is an endangered species.

The DEIS/EIR indicates that the Proposed Project will result in the "unavoidable incidental take" of an estimated 33 to 57 desert tortoises (See 4-78), because desert tortoises frequent the area of the Proposed Project. Although the Proposed Project is not within an area that is designated to be an area of critical habitat, the Proposed Project will still result in the destruction of habitat where the desert tortoise resides. In fact, the mining site and access/utility corridor are within the Eastern Colorado Recovery Unit for the endangered desert tortoise (See DEIS/EIR Appendix H, page 18).

The DEIS/EIR assumes that the cumulative impacts on the desert tortoise resulting from identified cumulative projects and the Proposed Action will be below a level of significance after mitigation measures are. Such an analysis fails to actually look at the cumulative and "ripple" effects that this Proposed Project may actually have on the overall impact of the endangered desert tortoise.

The DEIS/EIR fails to consider how the impacts from the Proposed Action, in connection with the other identified cumulative projects will affect the entire desert tortoise population in Imperial County and the designated area of critical tortoise habitat that is located nearby the Proposed Area. The desert tortoise is a sensitive species and analysis of significant impacts cannot be limited merely to the Proposed Action area, since impacts within the Proposed Action area could significantly effect tortoise populations outside the Proposed Action area. Therefore, the DEIS/EIR is inadequate under the requirements of 40 CFR § 1508.7 and 14 CCR § 15355 for failing to discuss all the cumulative adverse effects that could affect the entire desert tortoise species in the area surrounding the Proposed Action area. In turn, this causes the project to not give a fair and adequate description of environmental consequences, which is a violation of both 40 CFR § 1502.1 and 14 CCR § 15151.

017 **The DEIS/EIR fails to meet the requirements of 14 CCR § 15091(b) by failing to provide substantial evidence for finding that recreational traffic will not be overly restricted or affected.**

14 CCR § 15091 requires the findings be supported by substantial evidence in the record. The DEIS/EIR makes a finding that the project facilities "would not affect public access to the campsites", and Proposed Project operations would not encourage or overly restrict recreational traffic traveling on Indian Pass Road" (p.4-107). The DEIS/EIR fails to present substantial evidence to support this finding. No evaluation of the present traffic is provided, nor an estimation of the potential future traffic as affected by activities of the Proposed Project.

018 **The DEIS/EIR fails to meet the requirements of 14 CCR § 15093(b) by failing to provide a statement of overriding considerations to balance the unavoidable loss of some cultural resources.**

14 CCR § 15093(b) requires that "where the decision of the public agency allows the occurrence of significant effects which are identified in the final EIR but are not avoided or substantially lessened the agency shall state in writing the specific reasons to support its action based on the final EIR and/or other information in the record."
CEQA also requires that when mitigation measures or alternatives are not feasible, the project shall be approved provided that "the public agency finds that specific overriding economic, legal, social, technological, or other benefits of the project outweigh the significant effects on the environment."

The DEIS/EIR states that "environmental education activities currently conducted in the vicinity of the Project mine and process area, specifically the viewing of cultural resources, would likely be substantially reduced or displaced by the Project during the life of the Project and after because some of the cultural resources would be inaccessible, while others would be permanently lost." (p.4-107). The DEIS/EIR fails to provide the specific reasons why the Project would be approved when this impact cannot be mitigated. Therefore it fails to meet the requirements of 14 CCR § 15093(b).

019 **The DEIS/EIR fails to meet the requirements of 14 CCR § 15091(b) by failing to provide substantial evidence for finding that visibility reduction would be below significance.**

14 CCR § 15091(b) requires that a finding be supported by substantial evidence. The DEIS/EIR makes a finding that visibility reduction would be below significance (p.4-89). No quantitative assessment of the visibility reduction have been undertaken, and the document simply states that computer modeling indicate that the Project would comply with the applicable ambient air quality standards. The actual effect of the mitigation measures is not properly described. Furthermore, the description of the possibility of "plumes" that may be locally visible is based on the experience at other mines in the region, without any further detail as to whether these mines use the same technique as would be used in the Project, or have a similar amount of activity, nor gives any information regarding the cumulative impacts of visibility reduction.

020 The DEIS/EIR fails to meet the requirements of 14 CCR § 15093(b) by failing to provide a statement of overriding circumstances to balance significant and unmitigatable impacts, namely the lack of conformity with the BLM Class II visual objectives and the visual contrast resulting from the Project.

14 CCR § 15093(b) requires that "where the decision of the public agency allows the occurrence of significant effects which are identified but are not avoided or substantially lessened the agency shall state in writing the specific reasons to support its action."
CEQA requires that when mitigation measures or alternatives are not feasible, the project shall be approved provided that "the public agency finds that specific overriding economic, legal, social, technological, or other benefits of the project outweigh the significant effects on the environment."

I. The lack of conformity with the BLM Class II visual objectives

The Project Area is located in an area of the California Desert Conservation Area (CDCA) designated Class L (Limited Use). Class L areas are generally managed to conform to the BLM Class II visual objectives which specify : "the objective (…) is to retain the existing character of the landscape", "management activities may be seen, but should not attract attention of the casual observer." The DEIS/EIR makes a finding that "the Project does not conform to the visual objectives", and that "this lack of conformance is a significant impact" (p.4-99, 4-100). While the DEIS/EIR makes this finding, it fails to meet the requirement of CEQA, because it does not describe and analyze the specific reasons why the Project would be approved notwithstanding this unmitigatable impact.

II. The visual contrast resulting from the Project

The DEIS/EIR finds that the visual contrast resulting from the Project is an unavoidable adverse effect (p.4-100) : "the residual impacts to the visual character of the Project area are judged to be significant and unmitigatable." While it does explain in what way the Proposed Project would adversely, significantly and permanently affect the area, it fails to state the specific reasons why the Proposed Project would be approved notwithstanding this impact.

021 The DEIS/EIR fails to meet the requirements of 40 CFR § 1500.1(b) and 14 CCR § 15124 because it fails to accurately describe the precise location and general description of the project's characteristics with high quality information.

Inconsistencies in descriptions, data and other information throughout the DEIS/EIR and the Technical Appendices raise questions as to the thoroughness and correctness of the entire DEIS/EIR. If the general public and other decision-makers are meant to use these materials to "make a decision which intelligently takes account of environmental consequences" (14 CCR § 15151) and to make comments as part of the mandated decision-making process of the BLM these inconsistencies and inadequacies grossly compromise its ability to do so. These inconsistencies also draw to question the reliability and, thus, the adequacy of the entire DEIS/EIR. Accuracy of reporting known data and descriptions is reasonably feasible in any situation and is required by the federal and state statutes.

Following are just a few examples of such inconsistencies:

1) The Vegetation Appendix F (at 1) gives the project elevation as 750' to 875'. The Biological Survey Appendix H gives the project elevation as 760' to 925'.

2) Average rainfall in the area is reported at significantly different levels throughout the DEIS/EIR. The project area is characterized at 3-35 in the DEIS/EIR as receiving approximately 3.60"/year. In Appendix A (at 12) the average annual rainfall in the site area is reported to be 4.50". This is a 25% higher estimate, which would be statistically significant in any scientific analysis. This leaves the reader to believe that any vegetative or hydrological studies are unreliable as indeterminate data is being used.

3) Appendix F (at 1) erroneously states that the project site is 5 miles west of Ogilby Road and that the drainage is to the southeast.

This is very basic and easily obtained information. If this is conflicting and apparently wrong it would lead the reader to wonder what other information in the DEIS/EIR is incorrect.

022 The base-line vegetation analysis fails to meet the requirements of 40 CFR §1502.15 and 14 CCR §15125 because it

fails to include an adequate description of the environment in the vicinity of the project as it exists before the commencement of the project.

The assertion in the DEIS/EIR that the field surveys were conducted in June because that represents the period of optimal cover and diversity for the project area (Appendix F at 4) leads to false assumptions by the reader. The surveying done at only one time of year fails to account for other vegetation that will be apparent during other seasons. Also, since June is well after winter/spring rains have stopped there would typically be drying of herbaceous plants by that time which would skew a field survey as to the abundance of certain species.

The stated preference of the June survey period also begs the question as to why the revegetation monitoring surveys at the Picacho Mine were conducted in April (Appendix A, Attachment A at 2)and not June. Obviously there are questions, even to the preparers of the DEIS/EIR, as to what is the optimum vegetation survey time.

It would seem apparent, either to a field biologist or layman, that the full impact of the 20-year project cannot be determined by only considering the vegetation observed over a period of a few days at one point in one seasonal growing cycle. The DEIS/EIR, surveying only in June, is inadequate in this respect because it lacks vegetation baseline information necessary to "make a decision which intelligently takes account of environmental consequences". (14 CCR §15151)

023 **The proposed revegetation measures in the reclamation plan fails to meet the requirements of 40 CFR §§1502.16(c) and 1506.2(d) and 14 CCR §15125(b) by failing to discuss any inconsistencies between the proposed project and applicable general plans and regional plans.**

The DEIS/EIR mentions the existence of the 1980 California Desert Conservation Area Plan, as identified in the Federal Land Policy and Management Act, at 1-13. However, it fails to acknowledge the increased burden that the act places on the agency to protect the California desert environment. In later discussion of mitigation of the environmental damage to native vegetation there is no showing of how the proposed project is consistent with the CDCA plan as required by CEQA.

024 The proposed revegetation measures in the reclamation plan violate the policy associated with the California Desert Conservation Area, 43 USCS §1781 (FLPMA) because they fail to protect the project site from possible permanent undue impairment.

The proposed site is located within the California Desert Conservation Area and, therefore, is subject to 43 U.S.C.S. § 1781. The purpose of this section is to recognize the fragile ecosystem of the California desert environment and to provide for conservation of the desert resources through a multiple use and sustained yield management plan. The section recognizes mining law rights (subsection f), but states that the claims "shall be subject to such reasonable regulation as the Secretary may prescribe to effectuate the purposes of this section....Such regulations shall provide for such measures as may be reasonable to protect the scenic, scientific and environmental values of the public lands of the California Desert Conservation Area against undue impairment..." The legislative intent is obvious. This section of the Federal Land Policy and Management Act raises the bar for assessment of impacts on the desert environment and measures that are necessary to mitigate such impacts.

The DEIS/EIR reports the resulting impact of the project at S-30 as "substantial vegetation and plant habitat would be disturbed, but concurrent and final reclamation would revegetate and reestablish plant habitat over all of the disturbed areas except the slopes of the open East Pit". Subsequently the level of significance of resulting impact is reported as "not significant"

The revegetation plan calls for 2 years of monitoring with success levels measured at establishment of 30 percent or more of the vegetation density and 33 percent or more of vegetation diversity of the perennial species in the monitored reclaimed and revegetated areas, as compared to the offsite similar vegetation. By the words of the DEIS/EIR (Appendix A at 48) "growth of desert plants is slow even under the most favorable conditions, and revegetation is also slow".

To say that the resulting impact is "not significant" is a gross misrepresentation of the fact that a "successful" revegetation effort allows for the destruction and continued absence of approximately 70 percent of the native vegetation after 2 years.

Furthermore, Appendix A 4.1.5-21 allows final bond release based the above mentioned success criteria at the end of two years. If vegetation density or diversity should decline following the two year monitoring period the Applicant would no longer be held responsible through the bond measure. The public will be stuck with the bill.

025 **The Air Quality Analysis of the DEIS/EIR fails to meet the requirements of 40 CFR §1502.16 and 14 CCR §15151 because it is not prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences.**

Imperial County and the surrounding counties are already at nonattainment for PM-10, with Imperial County representing a more severe concentration than the rest of the county according to the NAAQS. PM-10 is one of the EPA's six "criteria pollutants" because it creates major effects of concern for human health (and the health of wildlife in the area). These concerns include respiratory and cardiovascular disease, damage to the lung tissue, carcinogenesis and premature death.

In Appendix N at 2.2.4.5.1 the DEIS/EIR states that the concentration at a "fence-line" receptor at the southwestern boundary of the project was "well below the California and Federal AAQSs (see Table 2), even when the assumed background PM-10 level is added." This statement misrepresents the fact that Imperial County already exceeds both the CAAQSs and the NAAQSs. Any addition to the concentration by the Imperial Project will further exceed these values, making attainment, even under the less stringent national requirements impossible.

026 **The limited noise analysis of the DEIS/EIR fails to meet the requirements of 40 CFR §1502.16 and 14 CCR §15126 because it fails to discuss the direct and indirect effects of noise generated by the project on the environment, their significance and any means to mitigate adverse impacts caused by noise.**

The DEIS/EIR discusses noise in section 3.8. It acknowledges that the Imperial County General Plan includes a noise element in its goals, objectives and procedures, but then states that since that project is located on land regulated by the federal government it is preempted from

local land use policy. While this may be true, the project is also within the California Desert Conservation Area which is a federal land use policy, enacted under the Federal Land Policy and Management Act. Therefore, analysis must be made in consideration of CDCA (43 U.S.C.A. § 1781(f)).

027 **The noise analysis of the DEIS/EIR is inconsistent with the purposes of 43 U.S.C.A. § 1781(b) which is applicable under § 1781(f) because it fails to adequately analyze the effects of noise on the maintenance of environmental quality.**

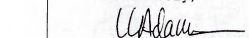
The DEIS/EIR describes the area as having assumed low ambient noise levels typical of isolated desert area, except for listed noise generating activities. The document fails to point out that all of the listed activities, except for mineral exploration by Glamis Imperial, are infrequent and of short duration. These activities are hardly comparable to noise generated by a mining operation that may occur 24 hours/day. The DEIS/EIR never gives estimates for noise levels produced by the proposed project even though one would assume they would be easily obtainable by assessing other mining operations.

The last paragraph of 3.8.2 describes "sensitive noise receptors" by explaining that "the intrusion of noise has the potential to adversely impact the occupancy, use or enjoyment of the environment". The document notes that there will be impacts on various recreational uses within a 1/2 mile of the project and beyond, but fails to explain the significance or possible mitigation measures or reasons for a lack thereof.

The DEIS/EIR also notes that there "may currently be present in or near the project area" "potentially noise-sensitive wildlife". There is no analysis as to the direct and indirect environmental impact, their significance or any mitigation measures or reasons for a lack thereof.

For the above stated reasons, the Desert Protective Council respectfully submits that the 1997 Draft EIS/EIR is insufficient to meet the requirements of the National Environmental Protection Act and the California Environmental Quality Act, and is insufficient as a matter of law to support the approval of the Proposed Project.

Sincerely,



Lissa Adams
Board member, Desert Protective Council

cc: Sen. Barbara Boxer, U.S. Senate
Sen. Dianne Feinstein, U.S. Senate

RESPONSE TO COMMENT LETTER I015 RECEIVED FROM LISSA ADAMS, BOARD MEMBER, DESERT PROTECTIVE COUNCIL, DATED APRIL 13, 1998

Response to Comment I015:001: See Responses to Comments I012:032 and I015:002.

Response to Comment I015:002: (The Following Response is Also Applicable to Comments I012:031, I012:032, I012:033, I012:034, I012:035, I013:267, I013:416, I015:001, J018:002B and J029:002.) The comment is correct that until and unless some or all of the mining claims are patented, the United States government would retain title to the land within the Project mine and process area, and as the land owner could ultimately be determined to be the entity responsible for the costs of reclamation or an environmental cleanup should such be determined necessary. However, to ensure that the operator fulfills its obligation to reclaim the land disturbed as a result of mining activities, the BLM is authorized under 43 CFR 3809.1(b) to require that "Any operator who conducts operations under an approved plan of operations as described in § 3809.1-5 of this title may, at the discretion of the authorized officer, be required to furnish a bond in an amount specified by the authorized officer . . . . In determining the amount of the bond, the authorized officer shall consider the estimated cost of reasonable stabilization and reclamation of areas disturbed." Section 2.1.11.5. (page 2-49) of the Draft EIS/EIR indicates that physical reclamation costs were estimated by Glamis Imperial in the Reclamation Plan [Appendix A of the Draft EIS/EIR] at approximately $0.7 million, and heap/process area neutralization at approximately an additional $2.04 million. Additional discussions between the BLM and Glamis Imperial (see Response to Comment I002:010) have increased the estimated costs of physical reclamation to approximately $0.964 million, and identified that the CRWQCB will likely require that Glamis Imperial post a separate bond (currently estimated at $0.2 million) to be held to cover the cost of any corrective action for environmental cleanup of areas affected by processing activities. Thus, the current estimate for bonding for the Project is a total of more than $3 million, and additional discussions between the Glamis Imperial and the BLM, Imperial County, and the CRWQCB will be necessary to determine the final bond amounts which are consistent with the requirements and limitations of the applicable laws and regulations.

However, the comment is not correct when it states that "There is abundant evidence that suggests that environmental cleanup would easily exceed the reclamation bond amounts of $2.74 million currently proposed in the DEIS/EIR (DEIS/EIR Page 2-49)." The only example given is that of the estimated $120 million cost to "clean up" the Galactic Resources Summitville Gold Mine in Colorado, which was abandoned by its operator with only $4.5 million in financial assurances. This attempted comparison is not valid. While both the Summitville Gold Mine and the Project are/would be cyanide heap-leach, open pit, precious-metal mines, the environmental conditions and geology at the two sites are enormously different, which leads to substantially different potentials for adverse environmental effects. The Summitville Gold Mine, located high in the mountains of Colorado,

RESPONSE TO COMMENT LETTER I015 RECEIVED FROM LISSA ADAMS, BOARD MEMBER, DESERT PROTECTIVE COUNCIL, DATED APRIL 13, 1998

receives large amounts of precipitation (much as snow); as stated in Section 3.4.2. (page 3-35) of the Draft EIS/EIR, the Project area receives very little precipitation. The Summitville Gold Mine is located adjacent to the perennial Alamosa River which is used for downstream agricultural irrigation; as stated in Section 3.3.1.1. (page 3-11) of the Draft EIS/EIR, surface water drainages within the Project area consist of a series of subparallel ephemeral washes which are fed by precipitation from infrequent winter storms and summer thunderstorms and which each eventually end in areas of infiltration on the eastern edge of the Algodones Sand Dunes. The ore located at the Summitville Gold Mine contains high concentrations of mineral sulfides, which generated large quantities of acid rock drainage and mobilized toxic metals when exposed to water and air; as stated in Section 2.1.4. (page 2-12) of the Draft EIS/EIR, the ore and waste rock are devoid of sulfide minerals, and static test analyses conducted on waste rock and leached ore samples from the Project mine and process area showed that the acid generating potential was low to very low. The Summitville Gold Mine heap leach pad liner tore and immediately released cyanide process solution into the underlying ground water; Section 4.1.3.2.2. (pages 4-22 and 4-23) of the Draft EIS/EIR concluded that because of the low precipitation, great depth to ground water, low head across the heap liner, and heap/process pond liner leak detection system, the potential for any ground water quality degradation from the heap leach pad and process ponds is reduced below the level of significance. Thus, the Draft EIS/EIR concludes, based on substantial evidence, that the potential for environmental effects to ground or surface water quality is below the level of significance.

Revisions to the Final EIS/EIR: None.

Response to Comment I015:003: The Complete Pit Backfill Alternative described in Section 2.2.3. of the Draft EIS/EIR (pages 2-61 through 2-63) was not dismissed as uneconomic, but was completely analyzed as an alternative to the Proposed Action in Section 4.4. of the Draft EIS/EIR (page 4-146 through 4-154). Glamis Imperial's assertion that this alternative was uneconomic was presented strictly as an unsupported statement, and not used in the analysis.

Revisions to the Final EIS/EIR: None.

Response to Comment I015:004: (The Following Response is Also Applicable to Comments D002:004, E001:009, I013:266, I013:271, and I024:003.) (See Also Response to Comment E001:009.) Discussions of the potential for releases of cyanide solutions, and the potential environmental impacts of such releases, are presented in the following locations in the Draft EIS/EIR: Section 4.1.3.1.2. (page 4-11) and Section 4.1.3.1.3. (page 4-16) - discussion of the potential for, and measures to mitigate, surface water degradation from spills; and Section 4.1.3.2.2. (pages 4-22 and 4-23) and Section 4.1.3.2.3. (page 4-26) - discussion of the potential for, and

RESPONSE TO COMMENT LETTER I015 RECEIVED FROM LISSA ADAMS, BOARD MEMBER, DESERT PROTECTIVE COUNCIL, DATED APRIL 13, 1998

measures to mitigate, ground water degradation from spills and leaks. These sections indicate that spills and leaks do occur, but also indicate that measures are available to mitigate (through prevention and/or remediation) these effects to below the level of significance. This includes the construction of the heap leach pad and pond liner and monitoring systems, which would conform with applicable regulations of the CRWQCB, as described in Section 2.1.8. (pages 2-14 through 2-19) of the Draft EIS/EIR. Further, as discussed in Section 2.1.11.5. (page 2-49) of the Draft EIS/EIR, the CRWQCB would require bonding, currently estimated at over $2 million, to cover the costs of neutralizing and cleaning up the cyanide solution used in the heap leach process. The CRWQCB would also require a separate amount (currently estimated at $0.2 million) to be held to cover the cost of any corrective action for areas affected by processing activities. All operations would be monitored in conformance with the requirements of the Monitoring and Reporting Program issued by the CRWQCB, and reported to the CRWQCB (and the BLM, as the agency representing the land owner, the United States of America) on the schedule required by that Program.

Revisions to the Final EIS/EIR: None.

Response to Comment I015:005: See Response to Comment I012:042.

Response to Comment I015:006: See Responses to Comments I010:002, I013:034 and I015:008.

Response to Comment I015:007: (The Following Response is Also Applicable to Comments I012:002, I012:005, I012:031, I013:375, I013:376, I014:003, I015:007, J004:001, J007:016, J012:002, J014:009 and J018:002B.) (See Also Response to Comment I010:006.) The IBLA decision *United States v. United Mining Corporation, 142 IBLA 339,335 (1998)* stated in part:

> "Having found the KB claims to have properly been located as building stone placer claims, we find it unnecessary to revisit the question whether the comparative-values test applies to claims located under the 1872 General Mining Law, 30 U.S.C. § 22 (1994), and we hereby vacate that portion of Judge Child's Decision finding the comparative-values test applicable to the 1872 General Mining Law, "if the discovery of a valuable mineral deposit be shown, a valid claim exists, regardless of a more beneficial use to which the land might be put." *United States v Quiescence Sand Corp. (On Reconsideration), supra, at 302.* See also *In Re Pacific Coast Molybdenum Co., (1976); Cataract Gold Mining Co., supra.*]."

However, the Secretary of the Interior took jurisdiction of this case pursuant to 43 C.F.R. 4.5, and issued a decision on May 15, 2000. The Secretary reversed the IBLA with regard to the Board's application of the comparative values test to the Building Stone Act, and specifically left open the

RESPONSE TO COMMENT LETTER I015 RECEIVED FROM LISSA ADAMS, BOARD MEMBER, DESERT PROTECTIVE COUNCIL, DATED APRIL 13, 1998

question of whether a comparative values test would also be applicable to the General Mining Law of 1872. Here, BLM has decided to analyze whether the proposed action causes undue impairment before reaching questions, such as the comparative values test, which concern the validity of the claims themselves.

Revisions to the Final EIS/EIR: None.

Response to Comment I015:008: (The Following Response is Also Applicable to Comments I012:043, I015:006, I015:009 and J006:002.) Mitigation Measure 4.1.6-3 states "Should previously unidentified cultural resources be discovered during project construction or operations, Applicant shall immediately cease all activities in the immediate vicinity of the discovery and notify the BLM. Activities shall not be reinitiated in the vicinity of the discovery until authorized by the BLM." This mitigation measure is adequate to address the unlikely discovery of a previously unrecorded site during construction. Further, the chance of discovering unrecorded or buried archaeological resources during construction of the Project is very remote. As summarized in Section 3.6.2.3. (pages 3-85 through 3-92) of the Draft EIS/EIR and described in detail in Appendix L of the Draft EIS/EIR, the Project's area of potential effects (APE) was subjected to an exceptionally intensive cultural resource survey. Outside of actively eroding streambeds, the vast majority of the APE is on very stable geological surfaces, and buried sites are not expected.

At the time of preparation of the Draft EIS/EIR, CEQA's requirements for archaeological impacts were provided in Appendix K of the CEQA Guidelines, but not in 14 CCR 15387, which applies to criteria for determining whether projects are located in "urbanized area." Appendix K's special rules requiring a guarantee that the applicant pay one half of the cost of mitigating the significant effect of the project on important archaeological resources, which is now required in Public Resources Code 21083.2(c), are to be applied at the time of project approval by the Lead Agency, and are not elements of the CEQA EIR. Moreover, these rules do not apply to the Project for several reasons. First, Appendix K, Section VI, of the CEQA Guidelines states "A public agency following the federal clearance process under the National Historic Preservation Act or the National Environmental Policy Act may use the documentation prepared under the federal guidelines in the place of documentation called for in this appendix." Second, Appendix K, Section VII.E. of the CEQA Guidelines provide that the special rules that apply to mitigating significant effects on important archaeological resources "do not apply to: . . . 2. A private project if the applicant and the Lead Agency jointly elect to comply with other provisions of CEQA that apply to mitigation of significant effects." In this case, most, if not all of the cultural resource mitigation costs would be provided by the Applicant.

RESPONSE TO COMMENT LETTER I015 RECEIVED FROM LISSA ADAMS, BOARD MEMBER, DESERT PROTECTIVE COUNCIL, DATED APRIL 13, 1998

As described in Section 4.1.6.4. (page 4-87) of the Draft EIS/EIR, not all impacts to cultural resources would be reduced below the level of significance after implementation of the mitigation measures specified in Section 4.1.6.3. of the Draft EIS/EIR. The CEQA lead agency would be required to adopt the appropriate findings in conformance with CEQA and the CEQA Guidelines at the time approval of the Project is considered.

Revisions to the Final EIS/EIR: None.

Response to Comment I015:009: See Response to Comment I015:008.

Response to Comment I015:010: The Draft EIS/EIR describes the findings of an intensive Class III cultural resource area covering the entire Project mine and process area, ancillary area, transmission line corridor, and appropriate buffer areas around the areas of proposed surface disturbance (pages 3-85 through 3-92). Sixty (60) of the prehistoric and historic sites appear to meet National Register of Historical Places (NRHP) criteria for eligibility for listing. Sixteen (16) prehistoric trail sites are located within the Project mine and process area. The number and distribution of the sites makes it impossible to avoid all of the sites and still mine the targeted precious metal resources beneath the surface of the Project mine and process area. Further, the Project cannot avoid impacts to the Indian Pass-Running Man ATCC (Draft EIS/EIR, page 4-83). For these reasons, and for impacts on other cultural resources that cannot be avoided as described in the Draft EIS/EIR (pages 4-80 through 4-83), the Proposed Action cannot feasibly avoid all of the significant impacts to cultural resources within the Project area. The statement that it is not "economically" feasible to avoid all of the features that contribute to the significance of the cultural resource sites (page 4-81) will be amended to reflect that it is not "technically" feasible to avoid all of the features.

Revisions to the Final EIS/EIR: The term "economically feasible" in the last sentence of the fourth paragraph on page 4-81 of the Draft EIS/EIR will be changed to "feasible."

Response to Comment I015:011: See Responses to Comments H001:004, I012:023, I012:043 and I012:048.

Response to Comment I015:012: (The Following Response is Also Applicable to Comment I015:013.) (See Also Response to Comment I010:002.) The Draft EIS/EIR states that because the CDCA Plan is "a multiple use, sustained yield plan developed to manage various resources including mineral development," the Proposed Action is consistent with the CDCA Plan (page 4-105). The support for this statement is presented in Section 1.6.1. (pages 1-13 and 1-14) of the Draft EIS/EIR

RESPONSE TO COMMENT LETTER I015 RECEIVED FROM LISSA ADAMS, BOARD MEMBER, DESERT PROTECTIVE COUNCIL, DATED APRIL 13, 1998

which describe surface management authorizations and relevant plans applicable to the BLM. The Final EIS/EIR will contain a reference to this section.

Revisions to the Final EIS/EIR: The second sentence of the fifth paragraph on page 4-105 (Section 4.1.9.2.) of the Draft EIS/EIR will be revised as follows in the Final EIS/EIR: "The Proposed Action is consistent with the CDCA Plan (see Section 1.6.1.)."

Response to Comment I015:013: See Responses to Comments I010:002 and I015:012.

Response to Comment I015:014: (The Following Response is Also Applicable to Comments A001:008 and I013:417.) (See Also Response to Comment I013:412.) As stated in Section 3.11.1. of the Draft EIS/EIR, both Indian Pass Road and Hyduke Road are being considered for inclusion in the BLM's National Backcountry Byways program, but neither has yet been adopted. Being under consideration for inclusion in the BLM's National Backcountry Byways program does not confer any special status on the two roadways, and no analysis was conducted to determine how the Proposed Action may affect the consideration for inclusion. Even if it were found that one or both of the roads could be removed from further consideration, this would not constitute a significant effect under the thresholds for significance for roads since this removal would neither "cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system;" nor "prevent or substantially reduce public access through the elimination of important existing routes of travel" (Section 4.1.11.1.1, page 4-112 of the Draft EIS/EIR).

As stated in Section 4.1.9.2. (page 4-107) of the Draft EIS/EIR:

> "Most recreational activities in the immediate vicinity of the fenced Project mine and process area would, however, be affected by Project activities conducted during the projected 20-year life of the Project within the Project mine and process area. Dispersed recreation would be affected by emissions of air pollutants, visibility of the mine components, noise generated by mine operations, and Project-related traffic on Indian Pass Road (and possibly Ogilby Road), even though mitigation measures to reduce the effects of these air emissions, visibility, noise, and traffic impacts are presented in the respective sections of the EIS/EIR. As a result of these effects of the project, dispersed recreational use of the areas adjacent to the Project mine and process area would likely be reduced during the life of the Project."

Indian Pass Road may not continue to meet the "off the beaten path" standard with the implementation of the Proposed Action. Hyduke Road is located more distant from the Project, and

RESPONSE TO COMMENT LETTER I015 RECEIVED FROM LISSA ADAMS, BOARD MEMBER, DESERT PROTECTIVE COUNCIL, DATED APRIL 13, 1998

would be less affected by the Project. These effects were considered when the EIS/EIR determined that the overall effect on recreational resources would be less than significant.

Revisions to the Final EIS/EIR: None.

Response to Comment I015:015: (See Also Responses to Comments F002:011 and I013:297.) The DEIS/DEIR acknowledges that increased wildlife mortality and displacement will result from direct and indirect Project-related impacts (page 4-53). However, with respect to night-time lighting and noise it was reasoned that species sensitive to these project-related stresses would avoid the area over the life of the Project. As such, it was determined that the offsite effects from Project noise or lighting would result in minimal additional wildlife mortality or displacement.

Revisions to the Final EIS/EIR: None.

Response to Comment I015:016: (The Following Response is Also Applicable to Comment I005:017.) Section 5.3.3. (page 5-13) of the Draft EIS/EIR quantifies direct impacts to tortoise habitat in a discussion of the cumulative surface disturbance from all of the identified mining-related and non-mining-related projects in the area of cumulative effects. The projects are dispersed over a regional area of at least 300 square miles, in which large vacant tracts of land, with similar vegetation and wildlife habitat, remain undisturbed. As stated in this same section (page 5-12) of the Draft EIS/EIR, "direct impacts are semi-quantifiable in terms of habitat loss, but indirect biological impacts are much more difficult to assess as they vary with site-specific conditions and the sensitivity of species which occur in the respective habitat types impacted." It would be practically impossible to evaluate, or even agree upon, the potential indirect impacts of the identified projects considered by the cumulative impact assessment. Decisions are routinely and necessarily made using the limited information that can be reasonably obtained about the effects of proposed projects, and it is the opinion of the BLM that additional assessment regarding indirect impacts of the projects evaluated by the cumulative impact assessment is not required. Similarly, CEQA Guidelines Section 15130(b) notes that "The discussion [of cumulative impacts] should be guided by the standards of practicality and reasonableness . . . ."

As the comment correctly indicates, Appendix H (page 18) of the Draft EIS/EIR states that "The mining site and access/utility corridor are within the Eastern Colorado Recovery Unit for the desert tortoise." However, Appendix H (page 18) of the Draft EIS/EIR continues, stating that "Management prescriptions for this unit call for establishing a reserve for protective management, focusing on the Chuckwalla Bench, northwest of the mining project area. The mining site and access/utility corridor are not within the proposed boundary of the Chuckwalla Desert Wildlife Management Area." As

RESPONSE TO COMMENT LETTER I015 RECEIVED FROM LISSA ADAMS, BOARD MEMBER, DESERT PROTECTIVE COUNCIL, DATED APRIL 13, 1998

stated in Section 3.5.4.2. (page 3-45) of the Draft EIS/EIR, the nearest designated desert tortoise critical habitat to the Project area is the Chuckwalla Critical Habitat Unit, located at its closest approximately two miles northwest of the Project mine and process area. There are no anticipated impacts to the Chuckwalla Critical Habitat Unit since it is well outside of the normal home range of tortoises that occupy habitat within the Project area. Similarly, the Chuckwalla Critical Habitat Unit is located outside of the normal home range of tortoise that occupy habitat within any of the respective project areas considered in the cumulative impact analysis.

Revisions to the Final EIS/EIR: None.

Response to Comment I015:017: The available traffic counts on the primary access, Ogilby Road, to Indian Pass Road are provided in Table 3.15, page 3-110 of the Draft EIS/EIR). Future traffic associated with the Project and temporary construction activities on Indian Pass Road is also evaluated in the Draft EIS/EIR (pages 4-112 through 4-114). This analysis provides the substantial evidence to support the finding that the proposed Project operations would not encourage or overly restrict recreational traffic traveling on Indian Pass Road.

Revisions to the Final EIS/EIR: None.

Response to Comment I015:018: As specifically stated in Section 4.1.9.2. (page 4-108) of the Draft EIS/EIR, the impacts of the Project on this and all other recreational resources are below the level of significance. Therefore, a statement of overriding considerations under 14 CCR 15093(b) is not required. Further, the CEQA statement of overriding considerations (14 CCR 15093[b]) is a requirement of the agency decision-making process under CEQA following the completion and certification of the Final EIR, which is why the Draft EIR is silent as to any statement of overriding consideration.

Revisions to the Final EIS/EIR: None.

Response to Comment I015:019: As stated in Section 4.1.7.2, visibility reduction results from the emission of particulate matter and nitrogen oxides. From the air quality analysis conducted for the Project and presented in Section 4.1.4.2., the ambient levels of both particulate matter (PM_{10}) and nitrogen oxides were modeled by computer to be below both the California and federal AAQS, and would be well below the respective AAQS within short distances from the Project mine and process area. The qualitative comparisons to other mines in the region is a valid means of assessing the effects of the Project, given the lack of indicators that visibility reduction was a significant issue. The reference to other mines in the vicinity is not so much to the possibility of occasional, short-term

RESPONSE TO COMMENT LETTER I015 RECEIVED FROM LISSA ADAMS, BOARD MEMBER, DESERT PROTECTIVE COUNCIL, DATED APRIL 13, 1998

plumes from mining operations, but to the lack of significant visibility reduction from the emissions from these other mines. The possibility of occasional, short-term plumes from mining operations is based upon more general experience with the types of activities (blasting and diesel exhaust) being proposed by the Project. The mitigation measures proposed to limit Project emissions of these two air pollutants are discussed at length in Section 3.4., they are not designed to reduce the potential for visibility reduction, but certainly do so. Thus, the discussion of these air quality mitigation measures, such as water sprays or chemical dust suppressants to be used on haul and maintenance roads and major roads as Indian Pass Road, is not repeated in this section.

In Section 5.3.2, Cumulative Impacts for Air Resources, PM_{10} levels were evaluated by combining the levels from the Proposed Action with those of the American Girl Mine, the Picacho Mine, the Mesquite Mine, and the Mesquite Regional Landfill. The cumulative impact of PM_{10} emissions from all of the cumulative projects was modeled and found to be well below the California and federal AAQS, and thus the potential visibility reductions would be even smaller than that for individual projects. Mitigation measures to reduce emissions of PM_{10} and nitrous oxides from cumulative projects are already contained in the ICAPCD regulations, and implementation of these rules and regulations are directed at reducing these pollutants sufficiently to have the region attain final compliance with the federal and California air quality standards for criteria pollutants in the future.

Revisions to the Final EIS/EIR: None.

Response to Comment I015:020: The CEQA statement of overriding considerations (14 CCR 15093[b]) is a requirement of the agency decision-making process under CEQA following the completion and certification of the Final EIR, which is why the Draft EIR is silent as to any statement of overriding consideration. However, the information regarding the significance of the visual effects of the Project is presented in the Draft EIS/EIR.

Revisions to the Final EIS/EIR: None.

Response to Comment I015:021: (See Also Response to Comment I013:277.) It is not unusual for different baseline environmental reports to utilize background information that varies slightly from each other. In addition, the study area boundaries would likely differ from discipline to discipline, resulting in other variations in location, elevation, and area surveyed. These minor differences are inconsequential to an understanding and appreciation of the environmental effects of the Project. Within the body of the Draft EIS/EIR, all of the information is coordinated. All of the data can be relied upon for decision-making purposes.

RESPONSE TO COMMENT LETTER I015 RECEIVED FROM LISSA ADAMS, BOARD MEMBER, DESERT PROTECTIVE COUNCIL, DATED APRIL 13, 1998

Revisions to the Final EIS/EIR: None.

Response to Comment I015:022: See Response to Comment I005:012.

Response to Comment I015:023: See Response to Comment I010:002.

Response to Comment I015:024: See Responses to Comments E002:017 and I010:002.

Response to Comment I015:025: (See Also Response to Comment I010:010.) The statement that "Imperial County [represents] a more severe concentration than the rest of the county according to the NAAQS" is also incorrect. As discussed in Section 3.4.3. (pages 3-36 and 3-37) of the Draft EIS/EIR, "That portion of Imperial County west of the crest of the Chocolate Mountains, which includes the Project area, is designated as "moderate non-attainment" under the NAAQS, and "non-attainment" under the CAAQS, for particulate matter less than 10 microns in diameter (PM_{10})." As also discussed in Section 3.4.3. (page 3-37) of the Draft EIS/EIR, "No data are currently available regarding the existing ambient PM_{10} concentrations in or immediately adjacent to the Project mine and process area."

Revisions to the Final EIS/EIR: None.

Response to Comment I015:026: (The Following Response is Also Applicable to Comment I009:029.) The referenced statement in Section 4.1.8.2. (page 4-100) of the Draft EIS/EIR did not state that there were any agency noise restrictions, but only stated that "The Proposed Action would not conflict with any applicable noise restrictions imposed by regulatory agencies." The first paragraph on page 3-99 (Section 3.8.1.) of the Draft EIS/EIR explains that while the Project is located within the County of Imperial, the guidance provided in the County's Noise Element to the General Plan is not applicable to projects or activities on public lands. In addition, there are no federal noise standards applicable to environmental noise, and neither the California Desert Conservation Area Plan nor other applicable BLM policy provide any specific noise restrictions relevant to the Project area.

The Environmental Protection Agency has identified a range of yearly day-night sound levels considered sufficient to protect the public health and welfare from the effects of environmental noise (EPA 1974). A tabular summary of the EPA sound level guidance will be added to Section 3.8.1. of the Final EIS/EIR.

RESPONSE TO COMMENT LETTER I015 RECEIVED FROM LISSA ADAMS, BOARD MEMBER, DESERT PROTECTIVE COUNCIL, DATED APRIL 13, 1998

The general direct and indirect effects of noise generated by the Project are evaluated in Section 4.1.8.2.; noise effects on recreation are specifically discussed in Section 4.1.9.2.; and effects of noise on wildlife are evaluated in Section 4.1.5.3. of the Draft EIS/EIR.

Revisions to the Final EIS/EIR: The following paragraph and table will be added as the new second paragraph of Section 3.8.1. (page 3-99) of the Final EIS/EIR:

The U.S. Environmental Protection Agency has identified a range of yearly day-night sound levels to protect public health and welfare from the effects of environmental noise (see Table 3.13a). These sound levels are not regulatory goals and were defined by negotiated scientific consensus. The protective sound levels were developed without concern for economic or technological feasibility and are intentionally conservative, with an additional margin of safety, to protect the most sensitive portion of the population (U.S. Environmental Protection Agency. 1978. *Protective Noise Levels - Condensed Version of EPA Levels Document*. EPA/ONAC 550/9-79-100 [November 1978]).

RESPONSE TO COMMENT LETTER I015 RECEIVED FROM LISSA ADAMS, BOARD MEMBER, DESERT PROTECTIVE COUNCIL, DATED APRIL 13, 1998

Table 3.13a Sound Levels that Protect Public Health and Welfare with a Margin of Safety

Effect	Level[1]	Area
Hearing	Leq(24) <70 dB	All areas (at the ear)
Outdoor Activity Interference and Annoyance	Ldn <55 dB	Outdoors in residential areas and farms and other outdoor areas where people spend widely varying amounts of time and other places in which quiet is a basis for use.
Outdoor Activity Interference and Annoyance	Leq(24) <55 dB	Outdoor areas where people spend limited amounts of time, such as school yards, playgrounds, etc.
Indoor Activity Interference and Annoyance	Ldn <45 dB	Indoor residential areas
Indoor Activity Interference and Annoyance	Leq(24) <45 dB	Other indoor areas with human activities such as schools, etc.

Source: U.S. Environmental Protection Agency. 1974. *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety.* EPA/ONAC 550/9-74-004 (March 1974).

[1]Level refers to "sound level" expressed in Leq(24) or Ldn, where:
Leq(24) = Equivalent sound level over a 24-hour period. It is the amplitude, or loudness, expressed as a single value of sound level having the same sound energy as the actual sound which varies with time in loudness over a 24-hour period.
Ldn = Average day-night sound level. Ldn is a calculated description of sound over a 24-hour period, which takes account of the fact that sounds are more annoying at night (10:00 pm to 7:00 am) than during the day (7:00 am to 10:00 pm). It is calculated by determining the equivalent sound level (Leq) over a 24-hour period after adding 10 decibels to the sound levels occurring in the period between 10:00 pm and 7:00 am before totaling. For reference, a sound which occurs over a 24-hour period and which has an Leq = 43 dBA would be equivalent to Ldn = 50 dBA.

Response to Comment I015:027: See Responses to Comments I005:014, I009:041 and I013:408.

SIERRA CLUB, SAN DIEGO CHAPTER
San Diego and Imperial Counties
3820 Ray Street
San Diego, CA 92104-3623

Office (619) 299-1743
Conservation (619) 299-1741
Fax (619) 299-1742
Voice Mail (619) 299-1744
EBBS (619) 299-4018

Received by Board 12/16

JAR

December 14, 1997

Mr. Doug Romoli
Bureau of Land Management
BLM Desert District Office
6221 Box Springs Blvd.
Riverside, CA 92507

Mr. John Morrison
Imperial County Planning Dept.
939 Main Street
El Centro, CA 92243

Re: Imperial Project DEIS/EIR comment deadline

Gentlemen:

001 Sierra Club respectfully requests a 30 day extension of the comment deadline for the Imperial County. We make this request for the following reasons:

(1) BLM and County have requested that comments on the DEIS/EIR be substantive and that whenever possible documentation be provided to support specific concerns and/or recommendations.

(2) There are no public or university libraries in Imperial County which contain technical studies needed for research.

(3) The nearest research libraries are located in San Diego, more than 100 miles away from Imperial County residents doing research on this project.

(4) The comment period includes three public holiday periods: Thanksgiving, Christmas, and New Year; a time when public and university libraries are closed for extended periods.

(5) The libraries at San Diego State University, University of California, and University of San Diego have limited hours of operation during the period from mid-December to mid-January when classes are not in session. San Diego State University library is closed from 12/20 to 12/28/97, and closed weekends and evenings until classes resume on January 26, 1998, the day before the comment deadline.

002(6) The Project is in an area not subject to previous mining operations and contains important biological, archeological and cultural resources which would be subject to significant unmitigable impacts and/or permanent destruction if the project is approved. The Mesquite Regional Landfill project, a regional mega-landfill adjacent to the 5000 acre open-pit Mesquite Mine, had a 90 day comment period. Major projects in undisturbed areas should be accorded a comment period equivalent to those given to projects adjacent to existing disturbed areas.

003 (7) The 6 page list of preparers of the new DEIS/EIR had about 10 months to prepare a new document in response to comments submitted by the public in 1996 and 1997. Preparers include BLM staff (20 persons); County Planning Dept. (2); Environmental Associates Inc. (15); Sage Engineer ¬g (1); VHBC Inc. (1); KEA Environmental Inc. (3 plus additional field staff); Tierra Environmental Services (1); T.L. Barrett Engineering (1); Brown-Berry Biological Consulting (1); BRG Consulting Inc. (1); Glamis Imperial corp. (6); Ted Rado Consulting (4); Bamberg Associates (2); Paul R. Krausman (1); WESTEC Inc. (3 studies 1994-1996); Imperial Irrigation District (1); and Hanson Engineering (1) for a total of 64 listed preparers , (See DEIS/ EIR Vol. II Appendices B-O and DEIS/EIR pp. 8-1 to 8-6 for the "List of Preparers").

Printed on 50% recycled paper

004 (8) Commentators within the public do not have resources of time, personnel, or finances similar to those of the preparers of the DEIS/EIR and are therefore at a disadvantage when trying to render comprehensive analytical comments on the entire document in only 60 days. To expect the concerned public to prepare substantive comments on the supposedly changed documents during just 60 days which includes 3 holiday periods and times when public and university libraries are closed or have limited hours between semesters places an undue/unreasonable burden on the public and is not in the public interest, particularly where the proposed project is located entirely on public land.

(9) Imperial County just released another DEIR for the White Pit, an open-pit sand and gravel mine adjacent to a residential community and just north of the Jacumba Mountain Wilderness Area. Said document, prepared under the County's Rules to Implement CEQA points out additional flaws or inconsistencies in the Imperial County standard of preparation and review for open-pit mines under CEQA. Neither the EIR for the Imperial Project nor for the White Pit can be reviewed in a vacuum absent a review of the other documents.

005 (10) Seventeen (17) sub-appendices were omitted from the Imperial Project DEIS/EIR and are not available for public review to those who live at some distance from the single listed repository for said appendices .. at the BLM El Centro Resource Area office. Furthermore none of the omitted technical reports were available at the BLM El Centro office as of the afternoon of December 11, 1997.

006 (11) Having a "received by " comment deadline serves to effectively shorten the comment period by about a week for most people because mails to Imperial County are often slow. It took 6 to 7 days for most people in San Diego and Imperial Counties to receive their Priority Mail packages of the DEIS/EIR. If Priority mail takes 6 to 7 days, how can the public estimate the amount of time for delivery to meet a "received by" deadline? We respectfully request that an extended comment deadline have a postmark date as the determination of whether the deadline has been met. A post mark date is good enough for the IRS. A post mark date is also good enough for the Bureau of Indian Affairs and US Fish and Wildlife Service, both within the Department of Interior. Therefore, a post mark date should also be good for BLM also.

007 Again, we respectfully request the extension of the comment deadline to assure adequate time for technical research in preparation of the requested "substantive comments" on the adequacy of the DEIS/EIR. Thank you in advance for extending the comment deadline and for having the new comment deadline with a post mark date. As always, we appreciate the opportunity to comment on projects proposed on our national treasure, public lands administered by BLM.

Sincerely,

Edie Harmon

Edie Harmon, Chair
Imperial County Subcommittee

Cc:
Ed Hastey, personal delivery
Senator Barbara Boxer

RESPONSE TO COMMENT LETTER I016 RECEIVED FROM EDIE HARMON, SIERRA CLUB, SAN DIEGO CHAPTER, DATED DECEMBER 14, 1997

Response to Comment I016:001: Comment noted. The comment period deadline was extended from January 27, 1998 to April 13, 1998.

Revision to the Final EIS/EIR: None.

Response to Comment I016:002: Comment noted. The comment period deadline was extended from January 27, 1998 to April 13, 1998.

Revision to the Final EIS/EIR: None.

Response to Comment I016:003: Comment noted. The comment period deadline was extended from January 27, 1998 to April 13, 1998.

Revision to the Final EIS/EIR: None.

Response to Comment I016:004: Comment noted. The comment period deadline was extended from January 27, 1998 to April 13, 1998.

Revision to the Final EIS/EIR: None.

Response to Comment I016:005: Comment noted. The comment period deadline was extended from January 27, 1998 to April 13, 1998.

Revision to the Final EIS/EIR: None.

Response to Comment I016:006: Comment noted. The comment period deadline was extended from January 27, 1998 to April 13, 1998.

Revision to the Final EIS/EIR: None.

Response to Comment I016:007: Comment noted. The comment period deadline was extended from January 27, 1998 to April 13, 1998.

Revision to the Final EIS/EIR: None

GLAMIS IMPERIAL CORP.
A Subsidiary of Glamis Gold, Inc.

RECEIVED
AU OF LAND MANAGEMENT
FEB 10 PM 4:42
ENTRO RESOURCE AREA
EL CENTRO, CA.

I017

Pat Shea, Director
Bureau of Land Management
Department of the Interior
1849 C Street, Room 5660
Washington, DC 20240

February 6, 1998

Mr. Director:

The local newspaper recently provided me a copy of a letter written to you by Senator Barbara Boxer. In her letter, she describes the reasons for her concerns with our proposed mine (The Imperial Project) in Imperial County California. If I may, I would like to take a moment of your time to perhaps provide a somewhat different perspective on our project.

001 First, a little background. A first Draft of the EIS was circulated from November 1st, 1996 through March 24th, 1997. We received a large number of non-technical comments, and a much smaller number of technical comments on that original document. Due to concerns that were raised, primarily by Native Americans and the Imperial County Fish & Game Commission, we decided to make significant changes to the project to avoid known cultural sites, increase wildlife mitigation, and reduce the visual impacts of the project. These changes, in addition to the BLM's decision to perform a second cultural survey of the area, prompted a revised DEIS for the project. This new DEIS was released for public comment on November 28th, 1997. The public comment period on this DEIS is scheduled to be complete on February 26th, 1998.

While we have received a number of non-technical comments on the revised DEIS, to my knowledge, we have received very few technical comments on the new draft, contrary to Senator Boxer's assertion.

002 Senator Boxer expresses concern that the mining of gold is not strategic, and should therefore be viewed differently than other minerals. While we can debate the subjectivity of "strategic", I would like to point out that in Imperial County California, gold mining is of strategic importance to the economic health of the community. In 1997 gold mining contributed over $100 million in local revenue. Our project would provide about $500,000 in local property taxes, and provide many jobs in an area that averages over 20% unemployment. I might also add that gold mining in the United States

O. BOX 1177, WINTERHAVEN, CALIFORNIA 92283 (760) 337-1891 (520) 783-1891 FAX (520) 782-9921

provides a surplus to the balance of trade, showing that gold is also strategic to the nation's economic health.

003 Senator Boxer's discussion of "unnecessary and undue degradation" as defined by FLPMA appears to miss the essence of that section of FLPMA. This area is described in great detail in the DEIS, pages 1-12 through 1-15. In the text, it states that FLPMA says:

> (43 CFR 3809.0-6) "Consistent with section 2 of the Mining and Mineral Policy Act of 1970 and section 102(a)(7),(8), and (12) of the Federal Land Policy and Management Act, it is the policy of the Department of the Interior to encourage the development of Federal mineral resources and reclamation of disturbed lands. Under the mining laws a person has a statutory right, consistent with Department regulations, to go upon the open (unappropriated and unreserved) Federal lands for the purpose of mineral prospecting, exploration, development, extraction and other uses reasonably incident thereto. This statutory right carries with it the responsibility to assure that operations include adequate and responsible measures to prevent unnecessary or undue degradation of the Federal lands and to provide for reasonable reclamation.

It goes on to clarify unnecessary and undue as:

> (43 CFR 3809.05(k)) "Unnecessary or undue degradation means surface disturbance greater than what would normally result when an activity is being accomplished by a prudent operator in usual, customary, and proficient operations of similar character"

I believe this passage indicates that the real essence is more related to how a prudent operator conducts his business than how an individual feels about mining in general.

004 Senator Boxer also calls for the Secretary to "take special care to protect sensitive lands in the California Desert Conservation Area." The Imperial Project is not within Wilderness or an Area of Critical Environmental Concern. I believe the important issue of relevance from the California Desert Protection Act of 1994 reads:

> "The Congress does not intend for the designation of wilderness areas in section 102 of this title to lead to the creation of protective perimeters or buffer zones around any such wilderness. The fact that nonwilderness activities or uses can be seen or heard from areas within a wilderness area shall not, of itself, preclude such activities or uses up to the boundary of the wilderness area."

This statement would indicate that Congress did not intend for areas near wilderness to be placed under any special scrutiny. I might add, the Imperial Project is approximately one (1) mile from designated Wilderness. The vast majority of those Wilderness Areas fall on the other side of the Chocolate Mountains to the north of the project. For this reason, the project would not be visible from most of the Wilderness. It should also be noted that, during the discussions on the Desert Protection Act, it was pointed out to Congress that this area had mineral potential, and Congress specifically excluded the area from Wilderness due to that mineral potential.

005 During the preparation of the DEIS, and the Biological Assessment that was written to begin the Section 7 consultation process with the USFWS, the area was inspected for desert tortoise. While this area was initially not listed by the BLM as tortoise habitat, it was determined to be Class 3 (the lowest listed class) habitat due to the existence of the desert tortoise. As described in the DEIS, the area has a very low density tortoise population and is therefore not, as the Senator states, "prime habitat".

006 The area is habitat for deer. This issue was discussed by several agencies (BLM, CDFG, and Imperial County Fish & Game Commission) in the initial comment period. As a direct result of those comments, we spent a great deal of time discussing mitigation measures with those agencies and have together developed a comprehensive package of mitigation that addresses the concerns for deer and deer habitat.

007 A great deal of effort has been put forth, at considerable cost, to inventory the cultural sites in the area and review them with the local Native Americans (Quechan) to determine their past and present uses. A comprehensive document was completed that reviewed not only the tangible resources, but an ethnographic study was done to incorporate the Quechan oral traditions as well. While the Quechan have expressed a great deal of concern for the area, the record indicates that the area has not been generally used in recent history. The cultural study says "traditional practitioners come physically to the ATCC in order to pursue spiritual knowledge...They have said that traditional practitioners came to this location as recently as the 1940's". Additionally, it should be noted that the Project is not within the Fort Yuma Reservation, but is removed by about 10 miles. The Reservation consists primarily of a large amount of tilled land, a townsite, and a Casino. This Reservation land is where the major Quechan settlements have occurred in the past, and continue today. I am not aware of any preserved cultural sites on the Fort Yuma Reservation.

008 The American Indian Religious Freedom Act (AIRFA) is cited in Senator Boxer's letter. She states that it makes it "a policy for the federal government to protect and preserve for Native Americans their inherent

right to believe, express and exercise their religion." In fact, the U. S. Supreme Court in *Lyng v. Northeast Cemetery Association*, clearly held that AIRFA only sets forth a governmental policy, and has not created any judicially enforceable individual rights.

009 We believe this DEIS has done an excellent job of reviewing the environmental effects of the proposed project, and has described mitigation measures to ensure the project does not produce unnecessary or undue degradation.

The process for reviewing and commenting on an EIS is quite straight forward. We are all provided the opportunity to comment on the merits of the Draft. Those comments are then incorporated into a Final EIS. This process is designed so that the decision makers can effectively do their jobs. I am sure you agree that the process that has worked well in the past, should be allowed to continue on this project.

Our Company has continuously operated the Picacho Mine in Imperial County since 1980. This mine, located eight (8) miles to the east of the proposed Imperial Project is the model of efficiency in land use, environmental stewardship, reclamation practices, and (yes) economic benefit to our company, our employees, and to the local economy. We simply wish to continue this successful formula which society has supported for many years.

Thank you for allowing me to take a moment of your time on this important issue. If I can be of any assistance, please feel free to call.

Sincerely,

Steve Baumann
Vice Pres. & General Manager
Glamis Imperial Corporation

cc: Senator Barbara Boxer
Congressman Duncan Hunter, 52nd District
Governor Pete Wilson
Imperial County Fish & Game Commission
Imperial County Board of Supervisors
California Mining Association
[redacted]

RESPONSE TO COMMENT LETTER I017 RECEIVED FROM STEVE BAUMANN, VICE PRESIDENT AND GENERAL MANAGER, GLAMIS IMPERIAL CORPORATION, DATED FEBRUARY 6, 1998

Response to Comment I017:001: (See Also Response to Comment I017:009.) Comment noted.

Revisions to the Final EIS/EIR: None.

Response to Comment I017:002: Section 4.1.10.2 of the Draft EIS/EIR describes the beneficial socioeconomic effects of the Project, including contributions to local revenue and local property taxes.

Revisions to the Final EIS/EIR: None.

Response to Comment I017:003: See Response to Comment I010:002.

Response to Comment I017:004: See Response to Comment I010:002.

Response to Comment I017:005: See Responses to Comments A001:008 and F002:006.

Response to Comment I017:006: See Response to Comment F002:005.

Response to Comment I017:007: See Response to Comment J023:002.

Response to Comment I017:008: See Response to Comment E001:013.

Response to Comment I017:009: (See Also Response to Comment I017:001.) Comment noted.

Revisions to the Final EIS/EIR: None.

GLAMIS IMPERIAL CORP.
A Subsidiary of Glamis Gold, Inc.

RECEIVED
BUREAU OF LAND MANAGEMENT
98 FEB 25 PM 12:12
EL CENTRO RESOURCE AREA
EL CENTRO, CA.

JAK

Mr. Terry Reed
U.S. Dept. of Interior
Bureau of Land Management
El Centro Resource Area
1661 South 4th Street
El Centro, CA 92243-461

1018

February 12, 1998

Mr. Reed:

I have noticed that three (3) topics with legal implications have come up during the public hearings on our project, recent Desert Advisory Council Meetings, and general discussions with BLM staff. Those issues are:

1. Does the proximity to wilderness give the BLM discretionary power to deny a permit based on unnecessary or undue degradation?
2. What legal effects to the permit are brought about by the presence of, and impacts on, cultural and religious resources?
3. Is there a 1st Amendment Right issue? Is there an established law requiring a level of protection of religious/cultural resources?

Enclosed is a brief provided by our Attorney concerning those issues. I thought it may be helpful for you and your staff, and may help remove the perception within BLM that this is a landmark case. Clearly from the legal discussion, it is not. You may also wish to pass this by your Solicitor for their comment. Our Attorney, Jim Good, is available for any questions you may have.

Once again, thank you for your time and effort.

Sincerely,

Steve Baumann
Vice Pres. & General Manager
Glamis Imperial Corporation

cc: Jurg Heuberger

P.O. BOX 1177, WINTERHAVEN, CALIFORNIA 92283 (760) 337-1891 (520) 783-1891 FAX (520) 782-9921

GRESHAM, SAVAGE, NOLAN & TILDEN, LLP
Lawyers

MEMORANDUM

TO: Steve Baumann

FROM: Jim Good/Penny Alexander-Kelley

RE: Glamis Imperial Corporation - Imperial Project

DATE: January 23, 1998

INTRODUCTION

Our client, Glamis Imperial Corporation, has proposed a new gold mining project in Imperial County identified as the "Imperial Project" (herein, the "Project"). A joint Draft EIS\EIR, dated November, 1997, has been prepared for the BLM and the County of Imperial and circulated. Comments thereon were initially due no later than January 27, 1998. However, that date was extended by the BLM to February 26, 1998.

Three specific areas of concern have arisen about the Project and the environmental analysis. These are (1) the Project's potential visual impacts on the nearby Picacho Peak Wilderness Area and the Indian Pass Wilderness Area located north\northeast of the Project; (2) how the Project's identified adverse impacts on Indian cultural and\or religious resources could impact the decisionmaking process; and (3) whether the Project may impermissibly impact Native American religious freedom rights.

QUESTIONS PRESENTED

The issues may be summarized as follows:

001 1. Where a project is located in the California Desert Conservation Area, as Class L property, and is near a designated wilderness area, can the BLM deny a permit on the ground of undue and unnecessary degradation because of the project's potential adverse visual impacts to the wilderness area?

002 2. Where the proposed project may impact Indian cultural/religious resources, what legal effect will this have on the permit decision process?

003 3. Does any law establish a level of protection of the religious interests of Native Americans which could impact approval of the Project?

ANSWERS

001 1. Probably not. The California Desert Protection Act of 1994 provides that buffer zones around wilderness areas cannot be created so as to preclude a project simply because the project can be seen or heard from within the wilderness area, although it is conceivable that a project could impact a nearby wilderness area, and result in "unnecessary or undue degradation," where, for example, adverse air or water impacts could occur. Additionally, in this case, the Project's impacts on the Picacho Peak Wilderness and the Indian Pass Wilderness Area are described as minimal visual impacts, as few or very few viewers would be impacted by the visibility of the Project from the wilderness areas.

002 2. Under the National Historic Preservation Act and under the National Environmental Policy Act (NEPA), the potential impacts to Indian cultural/religious resources require consultation with Native Americans. However, impacts to such resources do not gain substantive protections which could justify a denial of the project where adequate mitigation is provided.

003 3. The American Indian Religious Freedom Act (AIRFA) requires that federal agencies consider Native American concerns in making land-use decisions, and this be accomplished through consultations and site inspections. As long as these procedural steps are followed, AIRFA does not provide other substantive protection, and, in fact, the United States Supreme Court has held that neither AIRFA nor the Constitution provide protection of religion to the extent that it can be used to prohibit the federal government's decisions regarding the necessary use of federal lands.

DISCUSSION

001 1. VISUAL IMPACTS

The Project's potential visual impacts are described in Section 3.7 of the Draft EIS\EIR. The Project is located within the California Desert Conservation Area ("CDCA"), and the Project area is designated as Class L-Limited Use. According to the EIS\EIR, a Class L area falls under the visual resource management objectives of the BLM identified as VRM Class II, which states:

> "The objective of this class is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not dominate the view of the casual observer. Any changes must repeat basic elements of the form, line, color, and texture found in the predominant nature features of the characteristic landscape." (EIS\EIR, p. 3-95.)

In accordance with the BLM Visual Manual, Section 8400, the EIS\EIR analyzed the visual effects of the Project in the Project area, including views from within the Picacho Peak Wilderness Area and the Indian Pass Wilderness Area. The view spot within the Indian Pass Wilderness Area is located at the southern end of the top of Black Mountain, about 5 miles from the Project (identified as KOP #2 in the EIS\EIR, p. 4-90). The spot within the Picacho Peak Wilderness Area is the top of the hill immediately south of Indian Pass Road, located two miles from the Project (identified as KOP #3 in the EIS\EIR, p. 4-90).

The EIS\EIR analyzes the views from KOP #2 and KOP #3 after reclamation (shown in simulations at Figures 4-5 and 4-7, respectively), and makes the following conclusions:

> "The view from these two viewpoints looks down on the Project mine and process area from distances of five (5) miles and two (2) miles, respectively. From KOP #2, there is an unobstructed view of the waste rock stockpiles and the top of the heap. From KOP #3, all of the principal Project facilities are completely visible except the East Pit, which is partially hidden by the East Waste Rock Stockpile." (EIS\EIR, p.4-91.)

The BLM Visual Manual, Section 8400, also requires that the level of impact be measured by the number of viewers, the viewers' observation point, and the duration of disturbance. (EIS\EIR, p. 4-92.) The EIS\EIR states that the number of viewers from KOP #2 would be "small, averaging only a few per day" and the number of viewers from KOP #3 would be "very small, less than a few per month." (EIS\EIR, p. 4-92.)

Nevertheless, the post-reclamation visual impacts are found to be above the level of significance because of the line and form features, and color contrasts:

> "The Proposed Action would result in the permanent placement of certain line and form features in an area of the landscape that did not otherwise have those lines and form features, and the overall color, line, form, and texture of the post-reclamation Project mine and process area features would not be reasonably consistent with the surrounding area." (EIS\EIR, p. 4-92.)

The EIS\EIR concludes, therefore, that the degree of change to the landscape would not conform to the BLM Class II visual objectives applicable to a Class-L designated area, and that lack of conformance is a significant, unmitigatable impact. (EIS\EIR, p.4-100.)

During the administrative procedure, some opponents of the Project have urged that an IBLA decision, *Price and Thomas*, 116 IBLA 210 (1990), requires that the Project be denied because of its impacts on the nearby wilderness areas. In *Price and Thomas*, the IBLA provided some insight into the appropriate analysis of the impacts to a wilderness area from a project located outside of the wilderness area. The BLM had rejected the proposed project by applying

§ 3809.0-5(k) of the BLM's regulations in 43 CFR, and taking into consideration the specific objectives of Section 601(f) of the Federal Land Policy and Management Act (FLPMA), requiring the protection of scenic, scientific, and environmental values of the affected lands and assuring against pollution of affected streams and waters.

3809.05(k) provides:

> "Unnecessary and undue degradation means . . . taking into consideration the effects of operations on other resources and land uses, including those resources and uses outside of the area of operations. . . . Where specific statutory authority requires a stated level of protection or reclamation, such as in the California Desert Conservation Area, . . . areas designated as part of the National Wilderness System administered by the Bureau of Land Management and other such areas, that level of protection shall be met." (Emphasis added.)

The IBLA agreed that the BLM was required by 43 CFR 3809.0-5(k) to consider the impacts of the proposed operations upon the then Wilderness Study Area (WSA) 355 (Indian Pass), and found that:

> "BLM applied the regulations at 43 CFR Subpart 3809 with particular attention to whether the proposed mining operations would affect WSA 355, as well as whether the operations would result in 'undue impairment' of the wilderness characteristics of the land directly affected."

In support of its rejection of the project, the BLM fround that:

> "[T]he impacts of the operation will be substantially noticeable from vantage points within WSA 355, as well as the Class C lands adjacent to it. In addition, the Class C boundary as established by the California Desert Plan was identified not only to enclose all lands possessing wilderness qualities, but also to establish boundaries which optimize manageability of the recommended suitable wilderness lands. By creating impacts substantially noticeable from within WSA 355 and by impairing wilderness suitability within WSA 355 and by impairing wilderness suitability within a portion of the Class C boundary (which defines the boundary of the optimum wilderness manageability) the proposed operation will impair the wilderness suitability of the total contiguous Class C unit, comprised both within and adjacent to WSA 355." (Emphasis added.) *Id.*, at pp. 219-220.

Clearly, the BLM sought to protect a buffer zone around WSA 355 in rejecting the Price and Thomas project. In doing so, the BLM found "substantial" impairment to the wilderness study area. Here, the impacts to the nearby wilderness areas from the Project appear to be minimal. Such impacts are limited to viewpoints from locations within each wilderness area,

and the EIS\EIR analysis concludes that few or very few viewers will be actually impacted.

In any event, *Price and Thomas* is distinguishable on several grounds. For example, the project site at issue in that decision was classified as Class C land, meaning that it was an area "primarily recommended as suitable for wilderness designation by Congress. See CDCA Plan at 13." *Id.* at p. 211. The Class C project site was located adjacent to the then Indian Pass Wilderness Study Area 355, itself classified as Class C land. The BLM determined that the California Desert Plan "mandate[d] a high level of protection for MUC "C" areas," and that the visual impacts from the proposed project exceeded the guidelines established for the area under the BLM's Visual Resource Management system. *Id.*, at p. 212. Additionally, the Class C land was, at that time, subject to the "no impairment" standard applicable to areas under wilderness review, and that reclamation to accomplish a "substantially unnoticeable condition" by the applicable deadline could not be met. *Id.*, at p. 212.

Another significant distinction of the *Price and Thomas* decision is that it predates the "no buffer zone" requirement of the California Desert Protection Act of 1994, which was adopted four years after the IBLA decision. Section 103 of the Act provides:

> "The Congress does not intend for the designation of wilderness areas in section 102 of this title to lead to the creation of protective perimeters or buffer zones around any such wilderness area. The fact that nonwilderness activities or uses can be seen or heard from areas within a wilderness area shall not, of itself, preclude such activities or uses up to the boundary of the wilderness area."

The BLM's decision to reject the *Price and Thomas* project relied both on impacts to the Class C project area as well as to the adjacent lands then under wilderness review. Those facts do not exist here with respect to impacts of the Project on the designated wilderness areas.

As stated above, however, the EIS/EIR does determine that the Project's visual impacts under the BLM's VRM Class II standard applicable to this Class L area will be significant and unmitigatible. As further discussed in connection with cultural/religious resources issues below, a NEPA finding of significance does not mandate a particular manner in which the agency's decision must be made in the absence of other statutes.

The regulations promulgated under FLPMA in 43 CFR 3809, state that their objectives are to "(a) Provide for mineral entry, exploration, location, and operations pursuant to the mining laws in a manner that will not unduly hinder such activities, but which will assure that the activities are conducted in a manner that will prevent unnecessary or undue degradation and provide protection of non-mineral resources of the Federal lands," and, (b) "Provide for reclamation of disturbed areas...." 43 CFR 3809.0-2. (Emphasis supplied.) "Unnecessary or undue degradation," in turn, is partly defined as exceeding what a prudent operator would do in the way of surface disturbance, taking into consideration the effects of the operation on other

resources and land uses, including resources and uses outside the area of operations, as well as failure to initiate and complete resonable reclamation. 43 CFR 3809.0-5 (k). In this connection, the level of protection required by 3809.0-5(k) necessarily includes the "no buffer zone" requirement of the Desert Protection Act. The finding of significance of project impacts under NEPA, is not, however, a determination that the visual impacts caused by the Imperial Project will be unnecessary or undue.

002 **2. IMPACTS TO INDIAN CULTURAL\RELIGIOUS RESOURCES UNDER THE NATIONAL HISTORICAL PRESERVATION ACT**

The impacts to particular Indian cultural\religious resources are described in Section 4.1.6. (EIS\EIR, p. 4-83.) The general area, including the Project site, are referred to as an "area of traditional cultural concern" pursuant to the National Historic Preservation Act (NHPA) based upon the Indian consultations, consisting of Native American trail segments, and a high concentration of evidence of Native American religious practices, including geogylphs, broken quartz, broken pots, and cleared circles. (EIS\EIR, p. 3-92.). The "Trail of Dreams" runs right through the Project site, and would be partially destroyed by mining operations. The Project has been modified to avoid as many identified resources as possible.

Nevertheless, the EIS\EIR concludes that the impacts to certain identified cultural and/or religious resources are significant and unavoidable:

> "The Indian Pass-Running Man ATCC, including the Trail of Dreams; seven (7) multi-component archaeological sites; and twelve (12) prehistoric trail sites in the Project mine and process area, each of which has been evaluated as eligible for the NRHP under Criteria 'A', 'C' and/or 'D,' would not be avoided under the Proposed Action. If the SHPO and the ACHP concur in the NRHP evaluation, adverse affects to each of these cultural resources would occur, and the impact of the Proposed Action would be considered significant and unavoidable, even after implementation of the mitigation measures specified in this EIS\EIR." (EIS\EIR, p. 4-87.)

The conclusions in the EIS\EIR are based upon an extensive cultural resources inventory and assessment prepared by KEA Environmental, entitled "Where Trails Cross: Cultural Resources Inventory and Evaluation for the Imperial Project, Imperial County, California," dated October 1997 (the "KEA Report"). The KEA Report is included in the EIS/EIR as Appendix L. A brief synopsis of the KEA Report is difficult due to the large scope of issues dealt with. However, as to the identified impacts to the Indian Pass-Running Man ATCC, the multi-component archaeological sites and prehistoric trail sites in the Project mine and process area, these are summarized in the KEA Report as follows:

"The project mine and process area will physically disturb about 2,000 acres in the central-eastern sector of the ATCC, approximately 15% of the total ATCC area. It would not physically disturb either the concentration of petroglyphs at Indian Pass or the religious-symbolic features at the Running Man site. However, it would disturb a high concentration of archeological features of potential religious-symbolic significance. The transect surveys revealed that the frequency of trail segments, geoglyphs, and prehistoric rock features declines to the west, north and east of the Project mine and process area. Only to the south, in the direction of the Running Man geoglyph, is the frequency of these types of features equivalent. The ore body conflicts directly with a major northeast-southwest trending trail with associated pot drops and prehistoric rock features. The Quechan has identified this trail segment as a part of the Trail of Dreams, which is of religious significance to the Tribe." (KEA Report, p. 308-309.)

Based upon the KEA Report, the EIS\EIR concludes that the Project will have an "adverse effect" on certain Indian religious/cultural resources, as the KEA Report concludes that these are eligible for protection under the NRHP. Assuming that SHPO agrees to the significance of these items, then 36 CFR 800.5(e) will govern the next step in the analysis, which requires preparation of a memorandum of understanding to mitigate the impacts to these eligible items.

The NHPA, like NEPA, is a procedural, rather than substantive, statute. Thus, the finding of listing eligibility of the Indian cultural and religious resources does not mandate that the Project cannot proceed as contemplated and thereby disturb or destroy artifacts or portions of the ATCC.

> "Neither NEPA nor Section 106 [of the NHPA] mandates a particular outcome of governmental decisions; rather each defines the processes by which those decisions must be made. See Apache Survival Coalition v. U.S., 21 F.3d 895, 906 (9th Cir. 1994); Colorado River Indian Tribes v. Marsh, 605 F.Supp. 1425, 1440 & n.11 (C.D. Cal. 1985)."
>
> *National Trust for Historic Preservation, et al. v. Blanck* (1996) 938 F.Supp 908, 919.

As stated above, NEPA is not a substantive statute, and findings of adverse impacts in an EIS will not require a particular decision about the Project:

> "The sweeping policy goals announced in § 101 of NEPA are thus realized through a set of 'action-enforcing' procedures that require agencies to take a '"hard look"' at environmental consequences,' . . . and that provide for broad dissemination of relevant environmental information. Although these procedures are almost certain to affect an agency's substantive decision, it is now well settled that NEPA itself does not mandate particular results, but simply prescribes the

> necessary process. [Cite omitted.] If the adverse environmental effects of the proposed action are adequately identified and evaluated, the agency is not constrained by NEPA from deciding that other values outweigh the environmental costs. [Cites omitted.] In this case, for example, it would not have violated NEPA if the Forest Service, after complying with the Act's procedural prerequisites, had decided that the benefits to be derived from downhill skiing at Sandy Butte justified the issuance of a special use permit, notwithstanding the loss of 15 percent, 50 percent, or even 100 percent of the mule deer herd. Other statutes may impose substantive environmental obligations on federal agencies, but NEPA merely prohibits uninformed -- rather than unwise -- agency action."
>
> *Robertson v. Methow Valley Citizens Council, et al* (1989) 490 U.S. 332, 350-351.

The Project's impacts to the Indian Pass-Running Man ATCC are likely to require time and expense to address, in terms of documentation, preservation (where possible), and further consultations, but cannot, alone, support a denial of the Project.

Again, FLPMA and the 3809 regulations also do not mandate denial of the project, if the impacts therefrom do not violate the unnecessary or undue degradation criterion, which have been examined through NEPA and the NHPA.

003 3. IMPACTS TO INDIAN RELIGIOUS PRACTICES

The Quechan tribe was involved in the administrative process and representatives of the Tribe were consulted during the preparation of the KEA Report. The Tribe maintains that the Project will interfere with its religious practices. The EIS/EIR discusses the following impacts and reaches the following conclusion regarding the Project's physical impacts to the Indian Pass-Running Man ATCC:

> "The Project mine and process area cannot avoid impacts to the Indian Pass-Running Man ATCC. According to knowledgeable Quechan representatives, development of the Project would destroy their ability to use the Indian Pass-Running Man ATCC for religious and educational purposes, which would have a "devastating" impact on their cultural heritage. Between fifteen (15) and twenty (20) percent of the Indian Pass-Running Man ATCC would be physically disturbed by the Project mine and process area. The Quechan have stated that construction of the Project would permanently cut-off their ability to use the Trail of Dreams to travel physically and spiritually to the sacred Newberry Mountain. Additionally, because views into and from the Indian Pass-Running Man ATCC contribute to the significance of the Indian Pass-Running Man ATCC, the construction of the waste rock stockpiles and heap would cause a permanent, out-

> of-character visual intrusion that would severely disrupt cultural use of the Indian Pass-Running Man ATCC. Similarly, solitude is an important contributing characteristic of the Indian Pass-Running Man ATCC, and operation of the Project would cause substantial aural impacts to the Indian Pass-Running Man ATCC. Aural impacts would be long-term, but not permanent, as they would cease upon completion of mining and reclamation. Some of the Project ancillary facilities are also located within the Indian Pass-Running Man ATCC, and would adversely affect the character of the Indian Pass-Running Man ATCC, although to a relatively minor degree when compared to the impact of the Project mine and process area on the Indian Pass-Running Man ATCC.

The EIS/EIR concludes that the Project's impacts on the Indian Pass-Running Man ATCC will be significant.

There is federal legislation which purports to protect Native American religious interests, however, as is discussed below, the federal law provides no real protection of such interests. The American Indian Religious Freedom Act, 42 USCS § 1996 ("AIRFA") provides:

> "Henceforth it shall be the policy of the United States to protect and preserve for American Indians their inherent right of freedom to believe, express, and exercise the traditional religions of the American Indian, Eskimo, Aleut, and native Hawaiians, including but not limited to access to sites, use and possession of sacred objects, and the freedom to worship through ceremonies and traditional rites."

The United States Supreme Court has held that AIRFA sets forth a governmental policy only, and does not "create a cause of action or any judicially enforceable individual rights." *Lyng v. Northwest Indian Cemetery Protective Association* (1988) 485 U.S. 439, 455; and, see, *The Klamath Tribes* (1996) 135 IBLA 192, 198. According to IBLA decision, the BLM departmental policy requires that:

> "BLM must consult with Native Americans and consider the consequences of its decision on the exercise of their religion; AIRFA does not mandate that BLM's decision is to be in accord with their beliefs. The Blackfeet Tribe, 103 IBLA 228, 240 (1988). This Board does not review a BLM decision to ascertain whether the decision conforms to the Tribes' religious beliefs and practices. We consider whether BLM adequately consulted with the Tribes, carefully considered their religious values and practices, and undertook reasonable measures to mitigate effects when making its decision. *Wilson v. Block* [708 F.2d 735, 745-47 (D.C. Cir.) cert. denied 464 U.S. 956 (1983)]; see *Red Thunder, Inc.*, 124 IBLA 267, 286-87 (1992); *Kenneth W. Bosley*, 91 IBLA 172 (1986)."

The Klamath Tribes, supra, at p. 198.

In this case, the BLM, Glamis, and KEA consulted representatives of the Quechan Tribe, the Quechan Cultural Committee (the "Committee"), on 11 occasions, and various members of the Tribe and/or Committee accompanied KEA and the BLM on site visits. The Tribe or members have otherwise been involved by appearances at public hearings, and submitted comment letters on the first draft of the EIS/EIR. According to the report of the "Native American Consultation For the Glamis Project," which is appendix "C" to the KEA Report (Appendix L to the EIS/EIR), the Committee initially refused to discuss any mitigation measures, claiming that the only acceptable alternative would be complete avoidance of disturbance. (Consultation, pp. 19, 26.) However, at the September 9, 1997 meeting, there was some agreement about the terms of possible mitigation, which was put into letter form and sent to the Committee and to the Tribal Office. These measures now appear in the EIS/EIR as the suggested mitigation measures, although they are the subject of on-going consultation with the Quechan Tribe.

From these meetings, it also is apparent that the Quechan Tribe does not currently use the Indian Pass-Running Man ATCC for the religious purposes which they discuss. For example, the Tribe maintains that physical destruction of the trails will make even dream walking impossible, thereby making it impossible to continue their religious practices, however, there are other discussions which suggest that no members of the Quechan Tribe are capable of reaching the necessary level to walk in dreams along the trails, that such teaching is not currently practiced, but remains a matter of spiritual importance to the Quechan people.

It does not seem likely that this level of religious concern could cause the BLM to deny the Project on this ground. In *Lyng*, the Forest Service proposed to upgrade a 49-mile stretch of road through the Chimney Rock section of the Six Rivers National Forest. As a result of comments, the Forest Service commissioned a study of American Indian cultural and religious sites in the area, and that report concluded that the entire area "is significant as an integral and indispensable part of Indian religious conceptualization and practice," noting the significance of individual sites within the area, and concluded that construction of the road "would cause serious and irreparable damage to the sacred sites which are an integral and necessary part of the belief systems and lifeway of the Northwest California Indian peoples." The report stated that the road project should not be built. Nevertheless, the Forest Service approved the road project, providing for the protection of as many sites as possible which were used for contemporary Indian religious purposes. The Forest Service also approved a timber management plan to harvest significant amounts of timber in the area.

The Native American group comprising the plaintiff in *Lyng*, argued that AIRFA enacted First Amendment protections of Indian religious beliefs into statutory law, and they interpreted the First Amendment protections to mean that governmental action could be proscribed where the degree of interference was such as to render their religious practices ineffectual. The Supreme Court disagreed:

> "Whatever may be the exact line between unconstitutional prohibitions on the free exercise of religion and the legitimate conduct by government of its own affairs, the location of the line cannot depend on measuring the effects of a governmental action on a religious objector's spiritual development The Government does not dispute, and we have no reason to doubt, that the logging and road-building projects at issue in this case could have devastating effects on traditional Indian religious practices. Those practices are intimately and inextricably bound up with the unique features of the Chimney Rock area, which is know to the Indians as 'high country.' . . .
>
> Even if we assume that we should accept the Ninth Circuit's prediction, according to which the G-O road will 'virtually destroy the Indians' ability to practice their religions,' [cite omitted], the Constitution simply does not provide a principle that could justify upholding respondents' legal claims. However much we might wish that it were otherwise, government simply could not operate if it were required to satisfy every citizen's religious needs and desires."
>
> *Lyng*, *supra*, at pp. 450-452.

Thus, it appears that the conclusion of significant impact to the Quechan Indian Tribes religious practices which might result from the Project, is not a sufficient legal reason for the BLM to deny the Project.

RESPONSE TO COMMENT LETTER I018 RECEIVED FROM STEVE BAUMANN, VICE PRESIDENT AND GENERAL MANAGER, GLAMIS IMPERIAL CORPORATION, DATED FEBRUARY 12, 1998

Response to Comment I018:001: See Response to Comment I010:002.

Response to Comment I018:002: See Responses to Comments I005:004 and I012:048.

Response to Comment I018:003: See Responses to Comments E001:013 and I005:004.

California Native Plant Society

February 16, 1998

I019

Bureau of Land Management
1661 South 4th Street
El Centro, CA 92243
Attention: Douglas Romoli

RE: Imperial Project

001 The California Native Plant Society, with over 10,000 members statewide, is a non-profit organization dedicated to preserving our State's native flora. Our membership has always taken a strong interest in BLM's management of the California Desert District Conservation Area, and we have always been represented on the District's Advisory Council. We have been encouraged by BLM's recent emphasis on the development of ecosystem management plans, and have been directly involved in the Northern and Eastern Colorado Ecosystem Management Plan (NECO Plan) from its inception.

Thus we are dismayed to see the Imperial Project proposed at a time when the results of thousands of hours of staff and volunteer time spent gathering data for the NECO plan have not been fully analyzed. Some of the goals of the biological analysis are to see where are:

- the key areas of biodiversity,
- large blocks of undisturbed habitat, and
- distribution of rare and sensitive species and plant communities

in order that a comprehensive conservation plan can be created which will protect sufficient viable habitat for all species so that none will become endangered in the future. The BLM is required by law to manage public lands so that species do not become extinct and to prevent the need for new species listings under the federal Endangered Species Act.

CNPS believes that the information revealed in the NECO Plan biological analysis will indicate that the area proposed for development by the Glamis Imperial Corporation would be better utilized by allowing it to remain undisturbed and unfragmented by the kind of mining proposed. We fear that this proposal, if implemented, will undermine the important work being done in the NECO process by destroying and fragmenting habitat and thus foreclosing some important management options. At a minimum, analysis and planning for this project should be postponed until after the NECO process has been completed. Optimally, this proposal will be withdrawn due to its unacceptable resource impacts.

002 1. Proposed project disturbs large currently unfragmented habitat which is all public land

The vicinity of the proposed project site is one of the largest, contiguous blocks of public (federal and state) lands in the NECO plan area; there are no "checkboard" private lands. This relatively wild area, from the border to the east and south, in to the dunes and up through the Chocolate Mountains, would be a strong candidate for protection from any further large surface disturbances in context of the NECO Plan.

003 2. Proposed project disturbs unique wash in vicinity.

From the south, Indian Wash is the first east-west trending wash beyond the Cargo Muchacho Mountains. How important is it in the context of all the other wash habitat of similar type in the vicinity? How many washes that support the fairyduster (*Calliandra eriophylla*) should we protect? One of the goals of the NECO plan is to "establish a long-term habitat protection plan which will designate protection and use

zones and measures to manage plant and animal communities and prevent any further listings[1]." It is unknown whether other washes in the vicinity have the same association of plant species; the assumption that mitigation can be found elsewhere is not supported by data.

004 **3. Are there any similar washes fully protected elsewhere?**

The fact that "all of the surveyed washes show evidence of recent human visits" makes clear that in this vicinity all microphyll woodlands are being impacted by human activity. It is BLM's mandate that "healthy, productive and diverse populations of native species exist and are maintained"[2]; perhaps the fairyduster washes in this vicinity are the best examples of this community on public lands in the California desert, and should be protected with Research Natural Area status.

The report states that the microphyll woodland "habitat is widespread and common in the Sonoran Desert of southeastern California and southern Arizona and occurs along and in well-developed dry washes". If washes in the project area total 9%, then one could extrapolate and project that within the general community called microphyll woodland, 9% of the habitat wherever it might be present would contain that community. But this specific wash has the fairyduster, a less widely distributed and less common plant than ironwood or palo verde. The question should be about the distribution of the fairyduster in these washes, such as: are any areas of this association (or any populations of the fairyduster) protected in a wilderness area or ACEC? Since in this vicinity such washes are subjected to vehicle impacts, it would be appropriate to determine, before approving this project, where an appropriate representative of this association (or species) should be located on public land within the desert subdivision[3]. It is possible that the area which encompasses Indian, Tumco, Little Picacho, Picacho and American Girl Washes, the habitat within Indian Wash is the most valuable for preserving in a Research Natural Area this particular microphyll woodland association.

005 **4. Cumulative Effects**

It is interesting to note that none of the maps presented show the "footprints" of any other mine except for the proposed Imperial Project. These other mines include Mesquite Mine (4,000 acres of disturbance), Mesquite Landfill (3,657 acres of disturbance), Picacho Mine (330 acres of disturbance), and American Girl Mine (618 acres). In comparison, the proposed Imperial Project would disturb 1,362 acres. This analysis, therefore, fails to adequately disclose to the public the cumulative impacts of this project and other existing projects in the planning area.

By overlaying these approximate project boundaries on a map, one can observe that the proposed Imperial Project is situated in a key place if one is looking for the few remaining unfragmented areas. With the Picacho Mine east of the Picacho Peak ridge, the American Girl Mine hidden within the Cargo Muchachos, and Mesquite Mine situated northwest of highway 78, a large relatively undisturbed habitat exists essentially from the ridge of the Chocolate Mountains southwest to the Algodones Dunes, bounded on the south by Interstate 8. The only major disturbances in this area are the Southern Pacific Rail Road, Ogilby Road and the transmission line corridor, although their impacts on vegetation are likely to be negligible.

If the NECO Plan concludes that this large area should be left undisturbed, approval of the Imperial Project would significantly impact that opportunity. Furthermore, it sets a precedent for approving additional heap-leach mines in the area. Could it be that gold deposits lie beneath the ground all the way

---

[1] Mission Statement: Interest Group Committee for the Northern & Eastern Colorado Desert Coordinated Management Plan.
[2] Ecosystem (rangeland) standards and guidelines
[3] Ecological Units of California. Subsection Map. 1994. USDA Forest Service.

from the Mesquite Mine to the Picacho? Is the proposed Imperial Project the first of a future string of heap-leach mines that will disrupt the entire area? Could it be that gold deposits lie beneath the ground throughout the entire area? By approving the Imperial Project, is BLM setting the stage for development of a mega heap-leach mining field that would eventually encompass the entire region? This analysis should disclose what is known about the potential for future mining in this area.

In the Cumulative Effects section (5.3.3 pp. 5-12 to 5-15) it is estimated that out of 200,000 acres in the project vicinity, 4-8% (7,680 to 15,360 acres) contain microphyll woodland habitat. Extrapolating further, it is estimating that approximately 427 to 855 acres of microphyll woodland habitat has been or would be lost within the cumulative assessment area. Based on this, the report concludes "because each individual cumulative project would be required to implement appropriate mitigation and compensation measures..., this cumulative impact on microphyll woodland habitat is below the level of significance."

Using the above figures, it is possible that 855 acres of microphyll woodland habitat has been lost out of 7,680, or greater than 10% of the estimated total. What percentage is acceptable to the BLM? The conclusion that mitigation will reduce impact below the level of significance assumes that similar habitat is available elsewhere for mitigation. Is this true for fairyduster washes? If so, the locations of such habitat should be publicly disclosed, along with specific mitigation plans. Perhaps the vegetation association found in the vicinity of the Imperial Project only occurs within the area analyzed for cumulative effect. In that case, there is not an "infinite" amount of similar habitat available for mitigation, and a threshold for habitat protection must be established, utilizing the best scientific information available.

0065. Reclamation Plan

A key element in the reclamation plan as it relates to revegetating microphyll woodland includes transplanting ironwood and palo verde trees into the diversion washes. There is no discussion on the likelihood of transplantation success, or evidence of past successful transplantings. Further, trees available for transplanting are limited to those under 8' in height and/or with a trunk diameter of 3" or less. How many such trees are present on the project site? Is that a sufficient number to satisfy "one of the reclamation plan primary objectives" which is to reestablish microphyll woodland habitat which would be roughly "equivalent to that currently found in the diverted wash systems"? What is the possibility that this transplantation will be 100% effective? Transplantation is rarely successful in establishing rare plants at new locations. A study by the California Department of Fish and Game (Fiedler, 1991[4]) found that, under optimum conditions, transplantation was effective in less than 6% of cases studied.

The assumption that wash vegetation will grow in this "created" diversion channel is not supported by documentation of previous successes. Once created, the diversion channels will be areas of disturbance, which are very different than the ancient washes in which the microphyllous trees naturally grow.

007Conclusion

There are many aspects of this project which are disconcerting, but mostly they reveal BLM's contradictory approach: on one hand BLM is preparing an ecosystem management plan for the area which should answer many of the questions about where are appropriate development areas, yet on the other hand BLM is requesting that the public comment on a development that will surely impact the region without the benefit of the data being collected for the NECO plan. The CDCA plan (1980) indicates that a prescriptive Habitat Management Plan would be prepared by the BLM for the Indian Wash area. The long-terms goals for the Indian Wash HMP stated in the CDCA plan were to protect, stabilize, and/or

[4] Fiedler, P. 1991. Mitigation related transplantation, translocation and reintroduction projects involving endangered and threatened and rare plant species in California. California Department of Fish and Game, Sacramento, CA. 82 pp.

enhance wildlife resource values in the area. Utilizing this area for a heap-leach gold mine is contradictory to the long-term goals stated in the CDCA plan.

CNPS strongly urges BLM to withdraw this plan from any approval process until the NECO plan has been finalized, if it has not been withdrawn altogether.

Thank you for the opportunity to comment on this plan.

Sincerely,

Steven L. Hartman

Steven L. Hartman
Conservation Committee
California Native Plant Society
6117 Reseda Blvd. Suite H
Reseda, CA 91335

RESPONSE TO COMMENT LETTER I019 RECEIVED FROM STEVEN L. HARTMAN, CALIFORNIA NATIVE PLANT SOCIETY, DATED FEBRUARY 16, 1998

Response to Comment I019:001: (The Following Response is Also Applicable to Comments I009:022, I019:002, I019:003, I019:004, I019:007.) The NECO Plan is the new name applied to the Northern and Eastern Colorado Desert Coordinated Management Plan (NECDMP) which is described in Section 3.9.1 of the Draft EIS/EIR as follows:

> "The BLM is currently drafting a long-term regional management plan which would include the Project area. The plan, entitled 'Northern and Eastern Colorado Desert Coordinated Management Plan' (NECDMP), would address a broad spectrum of land uses which include mineral exploration and development as well as protection of biological resources. Plan decisions would involve only state and federal lands and would provide the basis for the BLM to amend its 1980 California Desert Conservation Area Plan (CDCA) and the cooperating agencies to update their land and resource management plans. An overview and progress report on the plan was published in July 1995 and addresses those comments received during the public scoping period. The scoping process has been completed and a draft plan is anticipated for release in 1998."

The Draft NECO Plan and its Draft EIS is near completion and is anticipated to be released in the Fall of 2000. A 90-day review period will follow distribution of the Draft EIS and public meetings would tentatively be conducted on the EIS about August 2000 (Personal Communication - Dick Crowe, BLM California Desert District; March 9, 2000). There is no scheduled date for approval of the EIS or adoption of the NECO Plan at this time.

Revisions to the Final EIS/EIR: None.

Response to Comment I019:002: See Response to Comment I019:001.

Response to Comment I019:003: See Responses to Comments I013:168 and I019:001.

Response to Comment I019:004: See Responses to Comments I013:168 and I019:001.

Response to Comment I019:005: (See Also Responses to Comments E001:008 and I012:042.) The Draft EIS/EIR (page 5-14) uses the same habitat assessment methodology to estimate the amount of microphyll woodland that has been, or would be, lost as a result of the combined projects in the cumulative impact assessment area (427-855 acres). Regardless of the precision of the estimated number of acres that would be lost, the consistency of the assessment methodology used to make the estimates suggests that about 2.8-5.6 percent of the microphyll woodland habitat in the cumulative

RESPONSE TO COMMENT LETTER I019 RECEIVED FROM STEVEN L HARTMAN, CALIFORNIA NATIVE PLANT SOCIETY, DATED FEBRUARY 16, 1998

impact assessment area has been, or could be, lost from the combined projects (not the "greater than ten percent" calculated by the second comment by taking the high "impact" acres and dividing by the low "total" acres). Conversely, 94.4-97.2 percent of the microphyll woodland habitat would not be directly impacted by the combined projects in the cumulative impact assessment area. As discussed in Section 4.1.5.3.1 (page 4-51), microphyll woodland habitat is considered sensitive habitat by the CDFG, but it is not listed as "critical habitat" to threatened or endangered species, it has no specific statutory or regulatory protection, it is not provided any special distinction in the California Desert Conservation Area Plan, and it is not isolated to the cumulative impact assessment area.

In addition, as stated in Section 4.1.5.2.2. (pages 4-49 and 4-50) of the Draft EIS/EIR, the fairy duster, a BLM sensitive plant species, was observed in ephemeral drainages throughout the vicinity of the Project area. Because the fairy duster occurs over a large geographic area, including the Colorado, eastern Mojave, and Sonoran Deserts; is locally common; and can and would recolonize in washes previously disturbed by mining operations (Environmental Solutions 1987); the Draft EIS/EIR concludes that the "impact resulting from the loss of individual fairy duster plants, and fairy duster habitat, within the Project area is considered to be below the level of significance." For all of the same reasons, there is no reason to believe that the cumulative impacts to the fairy duster would be above the level of significance under NEPA. However, because of the mandatory findings of significance prescribed by CEQA guidelines, both the Project-specific and cumulative impacts of the loss of this habitat on desert tortoise, Gila woodpecker, and peregrine falcon are considered significant under CEQA (See Section 1, above). These determinations are reflected in the Final EIS/EIR.

Accordingly, Section 5.3.3. of the Draft EIS/EIR states that the cumulative effects of the identified cumulative projects and uses on biological resources would be below the level of significance, and evidence supports an alteration of this conclusion.

Revision to the Final EIR/EIR: None

Response to Comment I019:006: See Responses to Comments E002:020 and E002:022.

Response to Comment I019:007: See Responses to Comments I010:002 and I019:001.

I020



North Santiam Watershed Council

P.O. Box 18361
Salem, OR 97305
(503) 581-3024

February 25, 1998

Att'n: Doug Romoli
Bureau of Land Management
1661 South Fourth Street
El Centro, California 92243

Re: Glamis Imperial Gold Mine

Dear Mr. Romoli:

001 It's my understanding that the proposed Glamis Imperial Gold Mine will be profitable if the price of gold is $400 an ounce or more. On November 26, 1997, the price of gold fell below $300 an ounce for the first time since March 1985. On February 24, 1998, gold closed at $291.70 per ounce. It may never again sell for $400 an ounce.

002 The discrepancy between the actual price of gold and the price at which the mine can operate profitably indicates that Glamis Imperial Corporation has not 'discovered', as that term is used in mining law, a valuable deposit of gold. That means it does not have a valid claim. In invalid claim is no claim at all and without a claim there can be no mining.

The Bureau of Land Management should critically examine Glamis Imperial's costs of production before an Environmental Impact Statement is prepared.

Very truly yours,

James H. Conley, Esq.
Vice President

cc: Senator Barbara Boxer

'the desire....to see Oregon's open spaces clean, the air unsullied, the water uncontaminated and the scenery unblighted."
Govenor Tom McCall

RESPONSE TO COMMENT LETTER I020 RECEIVED FROM JAMES H. CONLEY, ESQ., VICE PRESIDENT, NORTH SANTIAM WATERSHED COUNCIL, DATED FEBRUARY 25, 1998

Response to Comment I020:001: See Response to Comment I010:006.

Response to Comment I020:002: See Response to Comment I010:006.

I021



North Santiam Watershed Council

P.O. Box 18361
Salem, OR 97305
(503) 581-3024
FAX (503) 371-3125
Attenion: N.S.W.C.

February 25, 1998

'98 MAR 3 PM 7 41
IMP. CO. CALIF.
COUNTY
PLANNING / BUILDING

Att'n: John Morrison, Planning Director
Imperial County Planning Department
939 Main Street
El Centro, California 92243

Re: Glamis Imperial Gold Mine

Dear Mr. Morrison:

001 The proposed Glamis Imperial mine has a number of problems all of which will be made worse by the declining price of gold. It's my understanding that the mine will be profitable if the price of gold is $400 an ounce or more. On November 26, 1997, the price of gold fell below $300 an ounce for the first time since March 1985. On February 24, 1998, gold closed at $291.70 per ounce. It may never again sell for $400 an ounce.

Consider these facts:

In recent years Belgium, the Netherlands, Canada, Russia, and Australia have sold significant portions of their gold reserves and the Swiss government is considering selling more than half of its reserves. *"Losing the Midas Touch,"* The Economist, Nov. 22, '97. "Russia Sells Gold," Mining Journal, Sept. 12, '97.

In 1996, central banks sold a net of almost 10 million ounces of gold and are expected to sell a net of 17.5 million ounces in 1997. They may sell even more in 1998. *"Gold: Damage Limitation"* Mining Journal, Nov. 7, '97.

Mutual funds which specialize in gold lost approximately 25% of their value because of the falling price of gold and redemption by their investors. Some gold funds may close. *"Old Investors Stick With Gold while Young Buyers Shy Away,"* Wall Street Journal, Sept.10, '97.

On January 28, 1998, Newmont Mining Co., in response to the declining price of gold, laid off 11 percent of its U.S. work force including 125 workers in Imperial County.

002 Glamis Gold Ltd. of Canada also recognizes the consequences of the declining price of gold as evidenced by the corporate rearrangement of its U.S. subsidiaries. The proposed mine was previously owned by Chemgold which also owns the Picacho mine. Glamis

"the desire....to see Oregon's open spaces clean , the air unsullied, the water uncontaminated and the scenery unblighted."
Govenor Tom McCall

Imperial Corporation was created for the proposed mine only. That was done to insure that in the event of financial problems, the Glamis Imperial mine would have no assets within the reach of creditors at some other location in the United States. Assets in Canada cannot be reached by U.S. creditors.

Imperial County no doubt views the proposed mine as a new industry and a source of good jobs. Given the price of gold, however, the mine may never open. If it does open, it will fail. Instead of new industry and new jobs, the County will then have new environmental problems and increased unemployment.

003 Imperial County has the opportunity to short circuit this problem. It should deny the application for a Conditional Use Permit for wells to pump water for the mine. The mine cannot operate without water.

Very truly yours,

James H. Conley, Esq.
Vice President

cc: Senator Barbara Boxer

RECEIVED
IMPERIAL COUNTY
PLANNING / BUILDING
'98 MAR 3 AM 7 44

RESPONSE TO COMMENT LETTER I021 RECEIVED FROM JAMES H. CONLEY, ESQ., VICE PRESIDENT, NORTH SANTIAM WATERSHED COUNCIL, DATED FEBRUARY 25, 1998

Response to Comment I021:001: Comment noted.

Revision to the Final EIR/EIR: None

Response to Comment I021:002: Comment noted.

Revision to the Final EIR/EIR: None

Response to Comment I021:003: See Response to General Comment 002.

SIERRA CLUB

I022

California/Nevada RCC Mining Committee
P.O. Drawer W, Independence, CA 93526
Stan Haye, Chair. (619)

March 8, 1998

Terry A. Reid, Area Manager
Bureau of Land Management
1661 South 4th St.
El Centro, CA 92243

Dear Sir:

001 In our study of the Imperial Project DEIS, we have determined that more information is necessary for us to properly analyze the document. We would sincerely appreciate your help in acquiring this information, as outlined below, or in informing us regarding the methods by which we can acquire it.

002 1. Please inform us as to whether or not a Validity Examination has been conducted of all of the unpatented mining claims comprising this project.

003 2. If a validity examination has been conducted for these unpatented mining claims, please inform us as to how we can acquire a copy of the validity examinations.

004 3. If a validity examination has not been completed for these unpatented mining claims, please inform us as to whether or not a validity examination is planned or perhaps now being conducted, and how we can obtain a copy of the examination when it is complete.

005 4. If a validity examination of the unpatented mining claims comprising the project area is not planned or in process, please inform us as to the reasons that this is not being done. Considering gold prices at present, and the fact that it is our understanding that the Agency may legally inquire into the validity of unpatented mining claims at any time, we believe that this is very important. If the unpatented mining claims are legally invalid, the project can not proceed.

006 5. If a validity examination of the unpatented mining claims comprising the project is conducted, we note that all costs of mitigation and reclamation in this very environmentally sensitive area, possibly including backfilling, must be included in the costs of mining when the prudent person test is applied to determine validity.

007 Please send us a map of all of the unpatented mining claims and millsites comprising the project area, and also showing the site of the major components of the project (pits, heap leach piles, buildings, etc).

Thank you very much for your help.

Sincerely,

Stan Haye

Stan Haye, Chair

To explore, enjoy, and protect the wild places of the earth. . .

RESPONSE TO COMMENT LETTER I022 RECEIVED FROM STAN HAYE, CHAIR, SIERRA CLUB, CALIFORNIA/NEVADA RCC MINING COMMITTEE, DATED MARCH 8, 1998

Response to Comment I022:001: See Response to Comment I010:006.

Response to Comment I022:002: See Response to Comment I010:006.

Response to Comment I022:003: See Response to Comment I010:006.

Response to Comment I022:004: See Response to Comment I010:006.

Response to Comment I022:005: See Response to Comment I010:006.

Response to Comment I022:006: See Response to Comment I010:006.

Response to Comment I022:007: See Response to Comment I010:006.

SIERRA CLUB, SAN DIEGO CHAPTER
San Diego and Imperial Counties
3820 Ray Street
San Diego, CA 92104-3623

Office (619) 299-1743
Conservation (619) 299-1741
Fax (619) 299-1742
Voice Mail (619) 299-1744
EBBS (619) 299-4018

I023

March 18, 1998

Bureau of Land Management
1661 South Fourth Street
El Centro, CA 92243
Attention: Doug Romoli

Re: Glamis Imperial's Imperial Project, a proposed open pit, cyanide heap leach gold mine on Indian Pass Road in eastern Imperial County, CA. 11/97 Draft EIS/EIR, SCH No. 95041025.

Dear Mr. Romoli:

001 For the past 16 months, since the release of the first Draft EIS/EIR in 1996, many members of the Sierra Club, San Diego Chapter have been reviewing environmental documents for this proposed project, reviewing materials at BLM ECRA and Imperial County offices, have made scores of field visits to the proposed mine site on Imperial Pass Road, conducted botanical surveys on the proposed mine site in 1996, 1997, and 1998, camped at the established campsite at the base of the hill where the Indian Pass Road is proposed for realignment, participated in many discussions with local archaeologists (including Lorey Cachora, Jay VonWerlhof, and Boma Johnson) and members of the Quechan Cultural Committee and Quechan Tribal Council, and attended the four Public Hearings conducted by BLM on this Project and the Public Hearing conducted by the Quechan Cultural Committee. In addition, we have reviewed Draft and/or Final EIS/EIR documents for the three other open pit mine operations in eastern Imperial County and for open pit mine operations in other counties in the California Desert Conservation Area. A number of our members have participated in past archeological surveys of the proposed mine site and vicinity. The proposed mine project and its adverse impacts on the natural environment, archeological resources, Quechan religion and culture, and visual resources have been discussed many times during our Conservation Committee meetings.

In response to the 1996 Draft EIS/EIR for the proposed Imperial Project, the Sierra Club San Diego Chapter urged BLM to deny the proposed project and support the No Action Alternative. We reached this conclusion after considerable study and discussion of archeological and religious issues with archeologists and with members of the Quechan Cultural Committee and other tribal members. At that time we made a determination

Printed on 30% recycled paper

to respect the opinion of archaeologists and to respect Quechan cultural and religious beliefs. Accordingly, the only supportable alternative is the No Action Alternative. No information provided has altered our earlier conclusions.

Additionally, the Sierra Club California Conservation Committee at its March 1997 meeting approved a motion which concludes that: "Sierra Club respects the different cultural and religious traditions of the Quechan Tribe and requests that BLM and Department of Interior actions respect Quechan concerns and withhold approval of Chemgold's proposed open pit mine in a place never disturbed by previous mining activity."

002 At its March 1998 meeting, the San Diego Chapter Conservation Committee discussed the proposed project and voted that in addition to supporting the No Action Alternative, we recommend withdrawal of the Indian Pass Road area from mineral entry and the expansion of the existing nearby Indian Pass ACEC, or withdrawal from mineral entry and designation of the area as part of a National Monument to protect the important archeological resources and Quechan sacred sites for present and future generations.

The Executive Committee hereby endorses the recommendation of the Conservation Committee that the area along Indian Pass Road to the East of Ogilby Road be permanently withdrawn from mineral entry and afforded protection for archeological resources and Quechan sacred geography for the benefit of present and future generations, and reaffirms this Chapter's opposition to the proposed open pit mine project on public lands. We believe that permitting a massive open pit mine at the proposed site is not in the public interest.

Sincerely,

Carolyn Chase

Carolyn Chase, Chair
Executive Committee

RESPONSE TO COMMENT LETTER I023 RECEIVED FROM CAROLYN CHASE, CHAIR, EXECUTIVE COMMITTEE, SIERRA CLUB, SAN DIEGO CHAPTER, DATED MARCH 18, 1998

Response to Comment I023:001: See Responses to General Comments 001 and 002.

Response to Comment I023:002: See Responses to General Comments 001 and 002 and Comment I023:002.



THE DESERT PROTECTIVE COUNCIL, INC.

A NON-PROFIT ORGANIZATION

P.O. BOX 2312 • VALLEY CENTER • CALIFORNIA 92082

DESERT PROTECTIVE COUNCIL
ADVISORY PANEL

SYLVIA BROADBENT
Professor of Archaeology

GEORGE W. COX
Conservation Ecologist

PETE DANGERMOND
Park Consultant

MARY DEDECKER
Botanist

BETTY FORGEY
Desert Tortoise Activist

MICHAEL FROME
Author

AUGUST FRUGE
Conservationist

LARRY IWERKS
Wilderness Advocate

WILBUR MAYHEW
Professor of Zoology

ART MONTANA
Professor of Earth Sciences

ALLAN MUTH
Biologist

KAREN SAUSMAN
BioPark Director

ROBERT STEBBINS
Herpetologist

LEONARD VINCENT
Professor of Biology

FRANK WHEAT
Attorney

HOWARD WILSHIRE
Geologist

TerryReed
AreaManager
Bureau of Land Management
1661 South 4th Street
El Centro, CA. 92243

5 April 1998

Dear Mr. Reed,

001 The Desert Protective Council feels that the Draft Environmental Impact Statement/ Environmental Impact Report (DEIS/EIR) for the Imperial Project located in Imperial County, California does not adequately and completely analyze the issues raised in pervious comments (attachment A). The position of the Desert Protective Council is that no mine should be permitted in this unique desert area.

The Desert Protective Council (DPC) would also like to submit the following comments regarding the Draft Environmental Impact Statement (DEIS)/Environmental Impact Report (EIR) summary (SCH #95041025) for the proposed Imperial Project, Imperial County, California.

Comments:

002 Page S-5: "Operations would terminate in approximately the year 2017, although reclamation activities may continue beyond that date." What is meant by "may continue"? Will they continue or not? What if the mine is terminated before 2017? What if the price of gold is too low for the mine to operate at "a profit"? Will is mine be required to complete reclamation? If not, will the Bureau of Land Management (BLM) cover the cost of full reclamation? Will the taxpayers have to pay for the reclamation if the mine goes bankrupted? Will the site be abandoned? What is the BLM's plan to cover the cost of reclamation in this case? Does the BLM have a backup plan? Why not require that the owners of the Imperial Project pay a percentage of the gold removed from public lands to cover the cost of reclamation of the mine site? Has the BLM presented this idea to the owners of the mine?

003 Page S-5: "The heap leach pad would be lined with synthetic materials ..." Have these liners ever leaked? What mines other than the sister mine (Picaho Mine) have used this type of liner? Has there ever been a leak at the Picaho Mine or any of the other mine? What is their history of leaks? If there is a leak, what is the plan to stop the leak? Will leaks be reported to the BLM?

004 Page S-5: "The West Pit would be the first pit mined, followed by the Singer Pit, followed by the East Pit (Figure S.3); both the West Pit and the Singer Pit would be entirely backfilled with waste rock under the Proposed Action." Why will the East Pit not be Backfilled? Why only backfill the West and Singer Pits? Is this to save the Glamis Imperial Corporation money? Why does the BLM want to save a private company money at the destruction and loss of our pubic lands?

To safeguard for wise and reverent use by this and succeeding generations those desert areas of unique scenic, scientific, historical, spiritual and recreational value, and, to educate children and adults to a better understanding of the deserts.

005 Page S-5: "Up to four (4) ground water production wells would be drilled and completed to provide the Project average water requirements of approximately 1,200 afy." What is meant by "average" and "approximately"? On page S-24: 4.1.3.2-2, It is stated that "the total annual ground water production shall not exceed 1,200 afy." Which statement is correct? How will this be monitored? What is meant by a "completed" well? Will the mine need more than 1,200 afy? What is the recharge rate of the ground water in the area? The Figure S.2 does not show where the "buried pipeline" will be? How deep will it be buried? Will it be removed when the mine is closed?

006 Page S-5: "...and the intersection of Indian Pass Road with Ogilby Road would be slightly realigned." What is meant by "slightly"? Who will pay for this realignment? Are these two roads public roads?

007 Page S-6: "The Project would pay....on the assessed valuation of the resources and assets." What is the assessed valuation of the resources and assets? Who will do the assessment of the resources and assets? Will it be the BLM? Will it be Imperial County? Will it be Imperial (Glamis Gold) itself?

008 Page 4-47: The revegetation program has been based upon the Picacho Mine. I have been to this site and the revegetation is a failure. The standard required for reclamation success at Picacho Mine is for overall cover to be one percent. One percent of overall plant cover is hardly considered successful. How could the BLM set the standard so low? Was this to save the mine owners money? The standard for Imperial Project is set at 30%. The flip-side is 70% disturbed. Does the BLM consider 70% destruction of public land acceptable? Is this not considered unnecessary and or undue degradation of the land? Is this not in conflict with the Federal Land Policy and Management Act (Section 1732 (b))? Why not set the success standard at 70%

009 Page 4-49, 4.1.5.2.1: Impacts to threatened or endangered plant species. The BLM stated that no federal or state listed plant species were observed during a botanical survey of the Project area or transmission line. However, on a recent visit to the Project area, we found several plant species that were not on the plant list that the BLM provided in the DEIR/EIS. Does the BLM feel that their survey is adequate? Is it possible that some plant species were missed during the BLM survey?

WEST PIT ALTERNATIVE

010 Why is only a portion of the West Pit to be backfilled? Why not all of it? Why is the Singer Pit not to be backfilled at all? Why not backfill both pits? Is this to save the mining company money? Does the BLM have any other reasons not to require the complete backfill of all pits at the site? If so, what are the reasons?

EAST PIT ALTERNATIVE

011 Again, Why is the East Pit not completely backfilled? Is this to save the mining company money?

012 Page S-22; 4.1.3.1-3: Will the concrete-paved areas be removed as part of the reclamation ?

013 Page S-30; 4.1.5-21: Collection of a seedbank of seeds from within and in the vicinity of the Project area. What is meant by "vicinity" of the Project area? How far from the Project area will seeds be collected? Certainly not the Indian Pass ACEC and Wilderness areas. How can you state that the destruction of 1,362 acres of fragile desert habitat is not significant?

014 Page S-30; 4.1.5-51: Who shall be on the Revegetation and Monitoring Review Committee? What will be the qualifications to be on the Committee? Why is only the BLM and Imperial County allowed to approve the people on the committee? Why is the public excluded from allowed the review and approve the composition of the committee?

015 Page S-32; 4.1.5-8: Why is the BLM concerned with the enhancement of deer browse vegetation on the project area? Is this to increase hunting in the area? What plant species make up deer browse vegetation? What is the estimated deer population of the Project area now?

016 Page S-34; 4.1.5-26 (2): Why are big game and/or small game guzzlers being constructed and maintained on the Project? The fact that the word "game" is being used would indicated that the BLM would like to increase hunting in the area. Does BLM and/or the California Department of Fish and Game want to increase game species in the area to promote increased hunting? Are there any game guzzlers in the area now?

017 Page S-34; Resulting Impact: destroying 90 acres of microphyll woodland is significant. Does the BLM feel that this loss in not significant? The 90 acres is what percent of the total microphyll woodland found on the Project area? How does the BLM propose to enhance the carrying capacity of adjacent habitat? How will this be measured?

018 Page S-36; 4.1.5-3: Wildlife kills associated with cyanide. Why are only dead wildlife found in or adjacent to the ponds or heap to be reported? What about any species that die due to cyanide and other heavy metals poisoning which wander off the Project area?

019 Page S-36; 4.1.5-4: All incidence of wildlife injury or mortality resulting from traffic. All wildlife? Does that include rabbits, lizards, butterflies? How will the BLM enforce this?

020 Page S-38; 4.1.5-52: Chuckwallas shall be moved away from any threats. Are Chuckwallas territorial? Has the BLM contacted Dr. Richard Tracy regarding Chuckwallas?

021 Page S-38 Resulting Impact: The Project would result in the "take" of the federal- and- state listed desert tortoise. How can the BLM justify any loss of any desert tortoise? Does the BLM feel that mining gold is more important than saving a species from extinction?

022 The DEIR/EIS is completely flawed and does not even come close to mitigating any of the damage that will be done by the Imperial Project. The Desert Protective Council recommends that no mining operation be allowed at the site. The destruction of desert land, wildlife habitat, wildlife and loss of Naive American religious sites for profit is wrong.

The Desert Protective Council would like to thank the BLM for the opportunity to comment on the DEIR/EIS for the Imperial Project (SCH #95041025).

Sincerely,

Douglas W. Allen
Vice-President, DPC

RESPONSE TO COMMENT LETTER I024 RECEIVED FROM DOUGLAS W. ALLEN, VICE PRESIDENT, THE DESERT PROTECTIVE COUNCIL, INC., DATED APRIL 5, 1998

Response to Comment I024:001: (See Also Response to General Comment 002.) Comment noted. As stated in Section 1.4 (pages 1-6 through 1-8) of the Draft EIS/EIR, the previously submitted comments were treated as scoping comments for the November 1997 Draft EIS/EIR.

This is consistent with CEQA Guidelines Section 15088.5(f)(1) which states:

> "When the EIR is substantially revised and the entire EIR is recirculated, the lead agency may require that reviewers submit new comments and need not respond to those comments received during the earlier circulation period. The lead agency shall advise reviewers, either within the text of the revised EIR or by an attachment to the revised EIR, that although part of the administrative record, the previous comments do not require a written response in the final EIR, and that new comments must be submitted for the revised EIR. The lead agency need only respond to those comments submitted in response to the recirculated revised EIR. The lead agency shall send directly to every agency, person, or organization that commented on the prior draft EIR a notice of the recirculation specifying that new comments must be submitted."

Revisions to the Final EIS/EIR: None.

Response to Comment I024:002: (See Also Response to Comment I002:010.) As stated in Section 2.1.11.3.7. (pages 2-45 through 2-47) of the Draft EIS/EIR, the timing of the completion of reclamation activities are tied to the final completion of mining activities and heap leaching and neutralization, and on the speed with which revegetation success is achieved. Thus, it is not possible to precisely predict how long reclamation activities would continue. If, however, mining operations terminated before the year 2017, reclamation would still be required, and the required bond would be held until the reclamation was complete.

Revision to the Final EIR/EIR: None

Response to Comment I024:003: See Responses to Comments E001:009 and I015:004.

Response to Comment I024:004: (See Also Response to Comment F001:001.) As stated in Section 1.2. (page 1-5) of the Draft EIS/EIR, the Proposed Action is the project proposed by Glamis Imperial ("This . . . Draft EIS/EIR has been jointly prepared . . . to analyze the environmental effects of the Proposed Action, which consists of the Imperial Project, an open-pit, heap-leach, precious metal mine proposed by Glamis Imperial Corporation, and the "overbuilding" of an existing utility

RESPONSE TO COMMENT LETTER I024 RECEIVED FROM DOUGLAS W. ALLEN, VICE PRESIDENT, THE DESERT PROTECTIVE COUNCIL, INC., DATED APRIL 5, 1998

electrical transmission line to deliver the necessary electrical power to the Imperial. . . ."). As described in Section 2.1.3. (page 2-11) of the Draft EIS/EIR, Glamis Imperial proposed as part of the Imperial Project that only the West Pit and the Singer Pit would be backfilled with waste rock derived from mining of the East Pit. As an alternative to the Proposed Action proposed by Glamis Imperial, the Draft EIS/EIR evaluates the Complete Pit Backfill Alternative (see Section 2.2.3., page 2-61 through 2-63, of the Draft EIS/EIR), which would consist of the complete backfilling of all of the pits.

Revisions to the Final EIS/EIR: None.

Response to Comment I024:005: "Average" means "an estimation of, or approximation to, an arithmetic mean." "Approximately" means "nearly correct or exact." Both statements are correct. Mitigation Measure 4.1.3.2-2, when applied, would limit ground water production to 1,200 afy, principally because that is the level of production which was analyzed as being below the level of significance. Mitigation Measure 4.1.3.2-6 requires that "Production of ground water from the Project ground water well field shall be monitored and reported to the ICPWD consistent with the requirements of this permit." A "completed" well is one which has been drilled and is ready to produce ground water. Information regarding ground water recharge is presented in Section 3.3.2.1. (pages 3-22 through 3-30) of the Draft EIS/EIR. Page S-2 of the Summary states that "The Project ancillary area (Figure S-2) would include . . . a buried water pipeline . . . ." The depth of burial is not specified. Section 2.1.11.2.4. (Page 41) of the Draft EIS/EIR states that "The buried ground water pipeline from the ground water well field to the Project mine and process area would be abandoned in-place."

Revisions to the Final EIS/EIR: None.

Response to Comment I024:006: Section 2.1.9.6. of the Draft EIS/EIR describes the realignment of the intersection. The realignment would be constructed as part of the Proposed Action by the Applicant, who would pay for the work under approvals from both Imperial County and the BLM. As stated by Section 3.11.1. of the Draft EIS/EIR, Ogilby Road is County Road S34; Indian Pass Road is a county-maintained road; both are maintained by the Imperial County Public Works Department. No transfer of ownership of the roadways would occur due to the realignment.

Revisions to the Final EIS/EIR: None.

Response to Comment I024:007: Section 4.1.10.2. (page 4-111) of the Draft EIS/EIR states that:

RESPONSE TO COMMENT LETTER I024 RECEIVED FROM DOUGLAS W. ALLEN, VICE PRESIDENT, THE DESERT PROTECTIVE COUNCIL, INC., DATED APRIL 5, 1998

"Property taxes in Imperial County are assessed at approximately 1.1 percent per year of the total assessed value. Depending on the assessed valuation of the Project property, projected property taxes are estimated to range between $250,000 and $600,000 per year."

The actual valuation of the property will not be known until the resource has been developed. Based on the projected property taxes, the assessed value is projected to be between $22.7 million and $54.5 million. For property tax purposes, Imperial County would be responsible for determining the assessed value of the property.

Revisions to the Final EIS/EIR: None.

Response to Comment I024:008: See Response to Comment E002:017.

Response to Comment I024:009: See Response to Comment I005:012.

Response to Comment I024:010: Section 2.2.3. (pages 2-61 through 2-63) of the Draft EIS/EIR describes the Complete Pit Backfill Alternative, which may be what is requested. Section 4.4. (pages 4-146 through 4-154) analyze the potential environmental impacts of this alternative.

Revisions to the Final EIS/EIR: None.

Response to Comment I024:011: See Response to Comment I024:010.

Response to Comment I024:012: As described in Section 2.1.11.2.4 of the Draft EIS/EIR (page 2-41), "any permanent below-grade structures and all foundations would be removed" during site reclamation.

Revisions to the Final EIS/EIR: None.

Response to Comment I024:013: The collection of seeds for the seedbank is described in the proposed Project Reclamation Plan, Appendix A to Draft EIS/EIR (pages 55-59). Project vicinity refers to the immediate geographic area around the Project mine and process area comprised of similar vegetation species and density as that observed within the proposed Project mine and process area. Oversight of the seedbank collection activities will be provided by the BLM.

Revisions to the Final EIS/EIR: None.

RESPONSE TO COMMENT LETTER I024 RECEIVED FROM DOUGLAS W. ALLEN, VICE PRESIDENT, THE DESERT PROTECTIVE COUNCIL, INC., DATED APRIL 5, 1998

Response to Comment I024:014: See Response to Comment I013:163.

Response to Comment I024:015: See Response to Comment I013:198.

Response to Comment I024:016: See Response to Comment I013:198.

Response to Comment I024:017: See Response to Comment I013:168.

Response to Comment I024:018: See Response to Comment F002:002.

Response to Comment I024:019: See Response to Comment F002:004.

Response to Comment I024:020: See Response to Comment I006:004.

Response to Comment I024:021: See Response to Comment A001:008.

Response to Comment I024:022: See Response to General Comment 002.



I025

California Desert Protection League

Elden Hughes
14045 Honeysuckle Ln
Whittier, CA 90604
April 7, 1998

Mr. Tim Salt
District Manager,
Bureau of Land Management
6221 Box Springs Boulevard
Riverside, CA 92507

Mr. Douglas Romoli
Bureau of Land Management
1661 South 4th Street
El Centro, CA 92243

Mr. Jurg Heuberger
Planning Director
County of Imperial
939 Main Street
El Centro, CA 92243

Mr. John L. Morrison
Assistant Planning Director
County of Imperial
939 Main Street
El Centro, CA 92243

Re: Imperial Project DEIS
dated November 1997

Dear Sirs,

001 1 The area of the mine footprint is classified under the BLM's Multiple Use Classification system as "L" (limited use) under the land management plan for the area (California Desert Plan). Under the Plan, this means "oriented toward giving priority to the protection of sensitive natural, scenic, ecological and cultural resources while placing limitations on other uses which may conflict with these values." This Plan was adopted pursuant to the requirements of FLPMA. The extensive report of KEA Environmental, Appendix L to the DEIS, shows that a remarkable number of important cultural resources of the Quechan tribe of American Indians are

located on the mine site and would be destroyed by the open-pit mining proposed, which would fundamentally alter the nature of the land in question.

It is apparent that authorization of the projected mine would violate the BLM's own land planning process since, instead of giving priority to "sensitive cultural values" as required, it would give an entirely unwarranted priority to mining. What could be a clearer instance of "undue degradation of the land" than this? The Secretary of Interior, acting through the BLM, is under an unqualified legal duty under FLPMA section 1732(b) to take "any action necessary" to prevent such degradation. We call upon the BLM to carry out this duty by rejecting the mining proposed in the DEIS.

Others -- including the Quechan Indians themselves -- have commented at length on the cultural resources, their importance, and the national interest in their protection. We associate ourselves wholeheartedly with these submissions.

002 2. Should the BLM choose to authorize open-pit mining on this site irrespective of the damage to cultural resources which that will cause, we submit that it must require complete and thorough reclamation of the site. We know that others have commented in detail about the shortcomings of the plan of reclamation submitted as part of the DEIS, including failure to include adequate revegetation standards, an inadequate period for monitoring the success of revegetation,

excessively steep slopes for waste rock piles and leach pads, and the like. Rather than include in this letter comments on every point in the reclamation plan which may deserve it, we limit this letter to two areas of importance: (a) the issue of pit backfilling and (b) the necessity to require a bond which will insure that every aspect of the reclamation plan not completed by the operator can be fully corrected by the Agency with bond moneys.

003 First, we note that under the proposed reclamation plan, the two smaller of the three pits are to be completely backfilled. The proposed $700,000 bond is insufficient to insure this -- and it is even expressly stated in the DEIS that should mining operations cease before these pits have been backfilled, backfilling will not take place. (DEIS p. 4-13). Reference is made to the comments page 5 submitted January 23, 1998 by the Center for Science in Public Participation. This is unacceptable and violates the primary purpose of bonding to insure reclamation. The bond must cover both the backfilling already an express part of the plan of reclamation and the backfilling of the third pit which is discussed below.

004 Secondly, the analysis of the feasibility of complete backfilling contained in the DEIS is subject to serious question and should be redone. See the Center's comments referred to immediately above, commencing on page 6. However, in the final analysis, on a site indicated in the DEIS to be on VRM Class II land with truly magnificent visual resources, it would in our judgment clearly constitute undue degradation of that land to leave any open pit unbackfilled

(especially one for the mining of gold, an unstrategic mineral) for two reasons, among others: (a) the pit (especially the gigantic third pit in this case) will be a massive scar on the landscape forever, and (b) the huge waste rock piles will double the unsightliness of the pit unless they are eliminated. They can be eliminated completely by complete backfilling, as the DEIS itself shows.

005 We draw attention to the distinction between the words "unnecessary" and "undue" in FLPMA § 1732(b) which, regrettably, has never been dealt with in the BLM's current rules. Using standard dictionary definitions of the common English word "undue," ("inappropriate," "unwarranted") we urge that to leave the third and by far the largest of the three pits unbackfilled would cause degradation of the land which is inappropriate and unwarranted under any rational analysis. And such degradation, under FLPMA § 1732(b)'s unconditional mandate (which constituted an express amendment of the 1872 Mining Law) must be prevented by the Secretary of Interior.

Finally, § 1781 was added to FLPMA to require special protection for land in the CDCA. The section constitutes another amendment of the 1872 Mining Law, and states that mining claims such as those of the Imperial Project shall be subject to regulations which "shall provide reasonable measures to protect the scenic, scientific and environmental values (of such land) against undue impairment." Again, the word "undue" is used, this time by itself, in association with the common term "impairment." Surely the scenic and environmental values of the land in

question would be most severely and irretrievably impaired by a gigantic pit and equally gigantic rock pile, both unreclaimed. Is such impairment unwarranted or inappropriate? We submit that it is.

Section 3809.9-5k of the BLM's 3809 series of rules specifies that where specific statutory authority (e.g., § 1781 of FLPMA with its clear expressions against "undue impairment" and for protection of "scenic" and "environmental" values) requires a "stated level of protection" then "that level of protection shall be met." We call upon the BLM to fulfill both the letter and spirit of its own regulations.

Yours very truly,

California Desert Protection League

by

LC980930.028/3+

RESPONSE TO COMMENT LETTER I025 RECEIVED FROM ELDON HUGHES, CALIFORNIA DESERT PROTECTION LEAGUE, DATED APRIL 7, 1998

Response to Comment I025:001: See Response to Comment I010:002.

Response to Comment I025:002: See Response to Comment I002:010.

Response to Comment I025:003: See Response to Comment I002:010.

Response to Comment I025:004: (The Following Response is Also Applicable to Comments I027:003 and I027:005.) Comment noted. However, as stated in Section 4.4.7.1. (page 4-150) of the Draft EIS/EIR, although the South Waste Rock Stockpile would be consumed to backfill the East Pit, the heap would still remain, and this, combined with the other visual effects of the Complete Pit Backfill Alternative, produce an effect on visual resources still above the level of significance:

> "The visual contrasts of the Complete Pit Backfill Alternative created by changes in line and form from the creation of new structures and facilities, altered surface colors, textures and vegetation cover, and changes in topography would differ in both degree and extent from the Proposed Action because of the backfilling of the East Pit with all of the waste rock from the waste rock stockpiles. When viewed from KOP #1 (Ogilby Road) or from KOP #4 (the informal overnight camping area), the Complete Pit Backfill Alternative would look like the view of the Proposed Action from the same point (see Figure 4.3 and Figure 4.9), except that only the heap would be visible, since the entire South Waste Rock Stockpile would have been removed to backfill the East Pit. The view of the Project mine and process area from KOP #2 (Black Mountain) and from KOP #3 (a hill south of Indian Pass in the Picacho Peak Wilderness Area) following the completion of final reclamation under the Complete Pit Backfill Alternative would differ more from the Proposed Action because of the backfilling of all of the pits and the elimination of all of the waste rock stockpiles (see Figure 4.14 and Figure 4.15). Because the heap would remain as a large alteration in the topography, the effect of the Complete Pit Backfill Alternative on visual resources would be above the level of significance."

See "Response to Comment I010:002" regarding the issue of "unnecessary or undue degradation."

Revision to the Final EIS/EIR: None.

Response to Comment I025:005: See Response to Comment I010:002.

I026

THE WILDERNESS SOCIETY

CALIFORNIA/NEVADA REGIONAL OFFICE

April 10, 1998

Attention: Douglas Romoli
Bureau of Land Management
1661 South 4th Street
El Centro, CA 92243

Mr. Tim Salt
District Manager
Bureau of Land Management
6221 Box Springs Boulevard
Riverside, CA 92507

Mr. John L. Morrison
Assistant Planning Director
County of Imperial
939 Main Street
El Centro, CA 92243

Mr. Jurg Heuberger
Planing Director
County of Imperial
939 Main Street
El Centro, CA 92243

'98 APR 15 PM 1 51

PLANNING / BUILDING

RE: Imperial Project Draft Environmental Impact Statement (DEIS), dated November 1997

Dear Sirs:

Thank you for accepting these comments on the proposed Imperial Project and the Draft Environmental Impact Statement prepared for it.

001 The Wilderness Society opposes the Imperial Project. If permitted, the project would have significant and unmitigatable impacts to lands and resources of utmost importance to Native Americans and citizens of the United States. The destruction of these cultural and natural values would be unnecessary and undue under any scenario.

PRESIDIO BUILDING 1016, PO BOX 29241, SAN FRANCISCO, CALIFORNIA 94129-0241

We urge you to recognize the importance of the resources that would be degraded and destroyed by the proposed mining operation and reject authorization for the Imperial Project.

002 The proposed Imperial Project would be located on public lands within the California Desert Conservation Area classified for limited use. Management of these lands and their resources should be "oriented toward giving priority to the protection of sensitive natural, scenic, ecological, and cultural resources while placing limitations on other uses which may conflict with these values" according to the California Desert Plan. How would authorization of any part of the proposed project be giving priority to the protection of sensitive resources? The only rationale action given this management direction is to prohibit the Imperial Project.

The Federal Land Policy and Management Act (FLPMA) at section 1732(b) directs the Secretary of Interior to take "any action necessary to prevent unnecessary and undue degradation of the lands." The proposed Imperial Project would not provide any essential benefits that can not be developed elsewhere. The cultural values that would be destroyed are one of a kind and significant. Given this, the proposed Imperial Project would cause unnecessary and undue degradation to these lands and their resources.

Section 1781 of FLPMA also calls on the Secretary to regulate mining claims on public lands within the California Desert Conservation Area "to protect the scenic, scientific, and environmental values of the public lands...against undue impairment." How would the Bureau argue that you are complying with this mandate if you permitted the destruction of irreplaceable historic and cultural resources of significant value to all Americans for the limited and ephemeral benefits associated with development of one additional gold mine? Clearly, section 1781 of FLPMA was included to address these types of resource conflicts and argues that the Bureau must prohibit the development of the Imperial Project.

003 All of the alternatives considered in the DEIS except the No Action alternative would have significant impacts to the area's cultural and natural values. Each of the alternatives considered would permit destruction of many of the innumerable cultural values of the area as described by Appendix L of the DEIS. The alternatives are insufficient in that none of them include complete reclamation, they lack adequate revegetation standards, do not call for complete backfilling of all mined material, would allow excessively steep slopes for waste rock and leach pads, and provide for insufficient bond, among various other failures. The alternatives also do not vary significantly in the impacts they would cause to cultural resources, biological resources, including vegetation and plant habitat, wildlife and wildlife habitat (including the desert tortoise a species listed under the Endangered Species Act), cultural, and scenic resources. This fact is obvious to the

98 APR 15 PM 1 51
PLANNING / ECOLOGICAL

reviewer while reading through pages S-18 through S-65. Table S.1, which begins at page S-18 and summarizes the actions and environmental impacts of the proposed action and the alternatives, uses the term "Same as Proposed Action" more than 200 times in comparing the alternatives and their impacts to that of the proposed action.

004 The Wilderness Society has been involved in management of the California Desert Conservation Area and the El Centro Resource Area for more than twenty years. The Society, including its members, enjoy numerous benefits from the lands and resources that would be impacted by the proposed Imperial Project. These lands are used for recreation, wildlife viewing, scientific research, education, preservation of biological diversity, scenic values, and their cultural values. The importance of the area to the Quechan Indians and the threat the proposed Imperial Project represents to their religion and culture is sufficient reason for the Bureau of Land Management to prohibit development of the project. We urge you to prohibit any type of surface disturbing activity in the proposed project area, the area's cultural and natural values are much more valuable intact than the area's mineral values.

The Wilderness Society is a member of the California Desert Protection League and incorporates by reference the comments of the Center for Science in Public Participation dated January 23, 1998 titled "Comments on the Draft Environmental Impact Statement on the Imperial Project."

Please keep us informed of all actions related to the Imperial Project. Thank you for considering our comments. We look forward to seeing the agency response to our comments and questions in the Final EIS.

Sincerely,

Norbert Riedy
Director of Conservation Programs
The Wilderness Society
Member, California Desert Protection League

cc: Bruce Babbitt, Secretary, Department of Interior
Pat Shea, Director, BLM
Ed Hastey, California State Director, BLM
Senator Barbara Boxer
Senator Dianne Feinstein

'98 APR 15 PM 1 51
PLANNING / EQUITIES

RESPONSE TO COMMENT LETTER I026 RECEIVED FROM NORBERT RIEDY, DIRECTOR OF CONSERVATION PROGRAMS, THE WILDERNESS SOCIETY, DATED APRIL 10, 1998

Response to Comment I026:001: See Responses to General Comments 001 and 002.

Response to Comment I026:002: See Response to Comment I010:002.

Response to Comment I026:003: Comment noted.

Revisions to the Final EIR/EIS: None.

Response to Comment I026:004: See Responses to General Comments 001 and 002.

SIERRA CLUB

1027

California/Nevada RCC Mining Committee
P.O. Drawer W, Independence, CA 93526
Stan Haye, Chair. (61

April 11, 1998

Terry A. Reid, Area Manager
Bureau of Land Management
1661 S. 4th St.
El Centro, CA 92243

Dear Sir:

001 The following comments are in reference to the Draft Environmental Impact Statement/Draft Environmental Report (DEIS/DEIR) dated November 1997 for the Imperial Project, Imperial, California.

These comments incorporate our previous comments of Dec. 28, 1996, Jan. 25, 1997, Feb. 11, 1997, and March 8, 1998 by reference.

002 We would again re-emphasize our position that the only viable alternative presented in the environmental documents is the No Action Alternative. There is no evidence presented that these are even valid mining claims at the present price of gold, and to permit mining on invalid mining claims would be to permit undue and unnecessary degradation of public lands, contrary to the mandate of law. The Bureau of Land Management (BLM) has the duty to permit mining according to law, and there is nothing in the law stating that the duty of the BLM is to ensure the profitability of a mining project by requiring less that the amount of reclamation and mitigation required to prevent unnecessary and undue degradation. If this were the case, the amount of reclamation and mitigation would depend on the ore grade, not on what is required to prevent unnecessary and undue degradation. This would be an absurdity. Rich mines would have gold plated reclamation, and poor mines would have no reclamation at all. Reclamation and mitigation are as much a part of the cost of mining as the Mine Dept. or the Mill Dept. Reducing costs in these areas could turn country rock into ore, just as much as shortcutting reclamation could.

003 If the BLM makes a decision to permit this project, then complete backfilling must be required. If the statement of Mr. Steve Baumann on p. 2-63 is true, ie, that the mine could not be run at a profit with complete backfilling, then there is no ore, there is no discovery, there are no valid mining claims, and there is no mining project. BLM must require the amount of reclamation required to properly fulfill the requirements of the law, regardless of the profitability of the mine, or lack thereof. A validity exam would be appropriate to determine whether or not there is ore that can be mined at a profit at present gold prices and including all necessary mitigation and reclamation.

We also note that, although complete backfilling would mitigate to some extent the effect of this project on scenic values, it would do nothing to mitigate the irreversible loss of natural and cultural values, and the destruction of a sacred Native American site.

We also find that the DEIS/R does not give us enough information to properly evaluate this project in the following areas:

To explore, enjoy, and protect the wild places of the earth. . .

004 Sec. 2-1-3 -- A key piece of information is not given in the discussion of "ore" -- that is, the price of gold used to determine the cutoff grade. The amount of "ore", and thus the entire mine design and the economic viability of the project, depends on this determination.

Are the unpatented mining claims on which this project will be developed valid at the present price of gold? If valid only at a higher gold price, on what basis? If a higher gold price than at present is used, is there creditable evidence that gold prices will rise in the future? Unpatented mining claims can be examined for validity at any time -- have these been examined using the present price of gold, and what are the results? Also, the statement is made that "Drilling results from the waste rock stockpiles and heap areas indicate . . . no minable resource at those areas." Are those areas unpatented mining claims? If so, they are invalid. If these areas are millsite claims, when were they staked? Are they valid?

005 Reclamation -- Fig. 4-3 and others -- colors of reclaimed heap leach and waste rock piles are wrong. Rock stain should be used to more nearly match the colors of the surrounding terrain, and rock stain can be used on the sides of these piles. In particular, Fig. 4-5 looks like the dirt piles made by giant gophers. These piles should be rounded, flattened, and would be much smaller if the pits were completely backfilled.

006 Sec. 2.2.3 -- This section also fails to give enough information to properly evaluate the complete pit backfill alternative. For instance, *mining* consists of drilling, blasting, loading, and hauling. In contrast, *backfilling* from already mined waste rock would not involve drilling or blasting, but only loading and hauling. Therefore, 130,000 tons/day is not a realistic fill rate -- it probably could be higher. Also, filling involves taking rock on essentially level roads or downhill, in contrast to mining, where hauling uphill is necessary. Thus, less energy would be used. Also, alternative methods of backfilling, such as using conveyor belts instead of trucks, should be investigated and documented.

The statement that backfilling would cost 40 to 50 cents per ton must be substantiated in detail, and alternate methods of fill which may result in lower costs should be presented in detail. The swell factor also needs to be substantiated. Is the amount given for unconsolidated fill? If so, can the fill be compacted, and would this result in substantially less waste rock and heap leach material being left on the surface?

007 We also must emphasize that the project objective as stated, which is "to fully excercise the rights available under the 1872 Mining Act", is specifically modified and limited by provisions of the BLM Organic Act and other laws. It must be determined what rights, if any, the project proponent has under the 1872 Mining Law -- that is, are the claims valid, including *all* necessary costs -- before determining to what degree the project objective can be attained.

008 We also remain concerned about the necessity for *independent* monitering and enforcement of mitigation provisions, and for public participation in these activities, as detailed in our letter of Dec. 28, 1996, and trust that these issues will be fully dealt with in the forthcoming DEIS/R.

Thank you for your attention to these matters. Please keep us informed regarding this project.

Sincerely,

Stan Haye

Stan Haye, Chair

RESPONSE TO COMMENT LETTER I027 RECEIVED FROM STAN HAYE, CHAIR, SIERRA CLUB, CALIFORNIA/NEVADA RCC MINING COMMITTEE, DATED APRIL 11, 1998

Response to Comment I027:001: (See Also Response to General Comment 002 and Response to Comment I024:001.)

Revisions to the Final EIS/EIR: None.

Response to Comment I027:002: (The Following Response is Also Applicable to Comments E002:001 and I013:197.) (See Also Response to Comment I010:006.) The comment is correct that the level of reclamation required cannot be directly tied to the profitability of the mining operation. However, reclamation is not equivalent to restoration and, as stated in Section 2.1.11.2. (page 2-34) of the Draft EIS/EIR, ". . . the goal of the [Reclamation] Plan is not to restore and revegetate to the original land form, but to a natural state that blends in with the existing undisturbed terrain." This is the level of reclamation which is being required.

Revisions to the Final EIR/EIS: None.

Response to Comment I027:003: See Responses to Comments I010:006 and I025:004.

Response to Comment I027:004: See Responses to Comments I010:006 and I014:002.

Response to Comment I027:005: See Responses to Comments F001:003 and I025:004.

Response to Comment I027:006: As stated in Section 2.2.3. (page 2-62) of the Draft EIS/EIR, the cost per ton for backfilling the East Pit was taken from Smith, 1997, and considered only the cost of loading, hauling, and dumping of the waste rock: "Using a range of $0.40 to $0.50 per ton as the cost for loading, hauling approximately one (1) mile to the East Pit, and dumping this stockpiled waste rock (Smith 1997) . . . ." The "swell factor" is for broken rock, not unconsolidated fill, which is not subject to substantial compaction.

Revisions to the Final EIR/EIS: None.

Response to Comment I027:007: See Response to Comment I010:006.

Response to Comment I027:008: See Response to Comment I013:163.

Chapter Office
Phone (503) 588-7340

I028

SALEM AUDUBON SOCIETY

Neighbors working together to care for the beauty and integrity of our natural world

April 16, 1998

Post-it® Fax Note 7671	Date 4/16/98	# of pages ▶ 2
To BLM	From Jim Conley	
Co./Dept. El Centro CA	Co. Salem Audubon	
Phone #	Phone # Society	
Fax # 760-337-4490	Fax # 503-378-0314	

Phone # - same

Senator Barbara Boxer
525 B Street, No. 990
San Diego, California 92101

Re: Glamis Imperial Gold Mine

Dear Senator Boxer:

001 Salem Audubon Society opposes the proposed Glamis Imperial mine. It has both environmental and, because it is an "Area of Traditional Cultural Concern" for the Quechan indians, anthropological problems.

002 Another problem is the declining price of gold. The mine will be profitable only if the price of gold is $400 an ounce or more. On November 26, 1997, the price of gold fell below $300 an ounce for the first time since March 1985. It is still below $300 an ounce and may never again sell for $400. DOWN TO EARTH: The Falling Price of Gold . . . .. A Mineral Policy Center Background Paper. Mineral Policy Center, 1997.

003 The discrepancy between the actual price of gold and the price at which the mine can operate profitably suggests that Glamis has not 'discovered' a valuable deposit of gold. The Mining Law of 1872 requires "discovery" of a "valuable mineral deposit" before a valid mining claim may be located. There can be no valid mining claim without discovery of a valuable mineral deposit. American Law of Mining Sec. 35.01.

The Mining Law of 1872 does not define "discovery" but case law requires the claimant to prove that the minerals found can be extracted and marketed at a profit. United States v. Coleman, 390 U.S. 599 (1968); Lara v. Secretary of the Interior, 820 F.2d 1535 (9th Cir. 1987); Converse v. Udall, 399 F.2d 616 (9th Cir. 1968), cert denied 393 U.S. 1025 (1969)

The validity of an unpatented mining claim depends on the continued existence of a discovery within its boundaries. It is not enough that at one time there was a valuable discovery. A discovery may be lost by a change in economic conditions which makes it unprofitable to mine. Lara v. Secretary of the Interior, 820 F.2d 1535 (9th Cir. 1987).

Reed Opera House, Suite 209A 189 Liberty Street N.E. Salem, Oregon 97301

To prove marketability, the claimant must prove marketability in compliance with law, including compliance with environmental laws. See, e.g. United States v. Downs, 61 IBLA 251 (1982); United States v. Pittsburgh Pacific Co., 84 Interior Dec. 282 (1977).

If a mining claim is thought to be invalid, the Department of the Interior can hold an administrative hearing, called a "contest", to determine it's validity. There are many grounds for a contest; one of them is invalidity for lack of discovery of a valuable mineral deposit. American Law of Mining, Sec. 50.01.

Because of the great area of federal public lands and the lack of personnel and funding to make a detailed examination of all claims, the Department does not usually institute a contest unless a claim comes to its attention unfavorably.

004 The local BLM office has issued a revised Draft Environmental Impact Statement in which it states that the preferred alternative is to allow mining. This indicates that comments on the DEIS, including comments about the probable invalidity of the claim, will not be considered when preparing the Final EIS.

Please do what you can to persuade the Department of Interior to contest the validity of Glamis Imperial's claim.

Very truly yours,

Jim Conley

Jim Conley, Co Chair of the
Conservation Committee

cc: Bruce Babbitt, Secretary of Interior
BLM, El Centro office
Edith Harmon

N. Sentinel Watershed Council ?

RESPONSE TO COMMENT LETTER I028 RECEIVED FROM JIM CONLEY, CO-CHAIR OF THE CONSERVATION COMMITTEE, SALEM AUDUBON SOCIETY, DATED APRIL 11, 1998

Response to Comment I028:001: See Responses to General Comments 001 and 002.

Response to Comment I028:002: See Response to Comment I010:006.

Response to Comment I028:003: See Response to Comment I010:006.

Response to Comment I028:004: See Response to Comment I010:006.

3 COMMENTS LETTERS CONTAINING SUBSTANTIVE COMMENTS AND RESPONSES TO THESE COMMENTS ON THE DRAFT EIS/EIR

PRIVATE CITIZENS

Dear Mr. Romoli,

J001

001 I am writing in response to the Draft EIS/EIR for the Imperial Project, Imperial, California, 1997. I worked as a research assistant in plant ecology for seven years and I'm currently helping the San Diego Natural History Museum compile a checklist of the plants of Imperial County. I have lived in El Centro for nine years and have spent considerable time learning the plants in the El Centro Resource Area as well as learning the plant ecology by conducting a literature search on the plants of the Sonoran Desert. Every year I spend considerable time hiking in Imperial County. All of the references and page numbers in the following letter refer to the Draft EIS/EIR unless otherwise stated.

002 Desert ecosystems present special sampling problems that must be addressed in any survey that claims to represent "the highest cover and diversity possible." In several places including page 3-51, the authors state that "the results of this vegetation survey were interpreted to represent the highest cover and diversity possible in the Project mine and process area with more than four times (>4x) the cover which would be expected following a series of dry years." However, the cover data were collected in June - well after the optimal period for cover of annuals and herbaceous perennials and therefore cannot represent the highest possible cover for these groups. Rainfall varies dramatically from year to year. For optimal density, diversity, and cover of annuals and herbaceous perennials to occur, the rainfall must be above the normal 2" to 3" of rainfall the Colorado Desert receives each year. Also, because the annuals are ephemeral they must be sampled when they are at their optimal size, cover, density, and diversity if the cover values are to "represent the highest cover and diversity possible". Therefore, the vegetation must be sampled in March or April of a wetter than normal year. 1998 is such a year. I request that the vegetation be resampled in March or April of 1998. Otherwise how can the public be sure that there are no rare, sensitive, or listed plants in the site? Thirteen species of plants have been found on the site so far, some of which are large, common, and showy such as Datura and Lupinus and therefore could not have been missed by a competent botanist sampling at the proper time. Others are very prolific this year. The surveys conducted for this Draft EIS/EIR do not represent "the highest cover and diversity possible".

003 On page 2-48, the author states that "the revegetation will be considered successful when 30% or more of the vegetation density and 33% or more of the vegetation of the perennial species in the reclaimed and revegetated areas, as compared to the off-site similar vegetation for two consecutive years. Annual and perennial plant cover is not proposed as part of the standards for revegetation efforts". Why not? Why were these variables part of the 1995 survey then if it is not deemed important enough to include them in the revegetation sampling? Are the densities of herbaceous perennials included? Are tree densities included? On page 5 of the vegetation baseline survey, the authors state that they collected density measurements for the shrub species, but not herb or tree species, so if the same methodology is used for the revegetation then the annuals and perennials will not be used at all in the standards for determining revegetation success thus removing from consideration the impacts on a major portion of the vegetation. Annuals are an important component of the Colorado Desert (part of the Sonoran Desert) ecosystem. In Pake and Venable (1996) the authors state that "annuals comprise about 50% of the species in a number of regional floras of the Sonoran Desert." Furthermore, Beatley (1969) states "the success or failure, and timing of rodent reproduction from year to year is dependent upon the presence or absence of annual (and perhaps perennial) vegetation in the

environment prior to or at the time of onset of the breeding season". Because the predators in the area are dependent upon the rodents, they will also be affected by low annual plant cover as well the deer and bighorn that graze in the area. What happens if during the two years that the revegetation effort is surveyed the area is experiencing a drought? How will it be determined whether it is truly successful? How are the study sites (both the control plots and the disturbed plots) chosen? Shouldn't they be chosen before the site is disturbed and fully surveyed at an appropriate time and year so that it is certain that they are comparable? Once the area is disturbed how will anyone know that the sites are indeed comparable? Why is the revegetation considered successful after comparable surveys conducted in two successive years? It could easily fail after that. What studies have been conducted that show that two years are enough to predict success later? Why not resurvey 10 and 20 years later before making that determination?

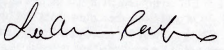
004 Why are exotic weed species such as Brassica tournefortii not removed from the seed mix (reclamation plan, p.26)? Why are they not covered in the weed removal efforts like those for tamarisk? With such low diversity and density requirements a large exotic weed papulation could be very detrimental to the local environment.

005 On page 3-11 the authors sate tat three major washes run through the site. Two flow into Indian Wash and one flows to the eastern side of the Algodones Dunes. Because the mine will interrupt the flow of these washes, which are important wildlife habitat, the area affected will be much larger than the proposed mine site. Rerouting these washes will probably result in changed patterns of water flow because the soil structure of the washes will be altered in the process. The net result may be highly detrimental to the entire area.

006 These concerns and the loss of important religious sites of the Quechan tribe cause me to request that the project not be allowed to go forward.

Thank you for your time.

Sincerely,



Lee Ann Renfro
514 Sandalwood Dr.
El Centro, CA 92243

Beatley, Janice C. 1969. "Dependence of Desert Rodents on Winter Annuals and Precipitation". Ecology 50: 721-724.

Catherine E. Pake and Lawerence Venable. 1996. "Seed banks in desert annuals". Ecology. 77: 1428-1435.

RESPONSE TO COMMENT LETTER J001 RECEIVED FROM LEE ANN RENFRO, NO DATE

Response to Comment J001:001: See Response to Comment I005:012.

Response to Comment J001:002: See Response to Comment I005:012.

Response to Comment J001:003: See Response to Comment E002:017.

Response to Comment J001:004: See Response to Comment I013:122.

Response to Comment J001:005: See Response to Comment E001:004.

Response to Comment J001:006: See Response to General Comment 001.

January 3, 1998 **J002**

Mr. Douglas Romoli
Bureau of Land Management
1661 South 4th Street
El Centro, California 92243

Re: Imperial Project Draft EIS/EIR, Indian Pass

Dear Mr. Romoli:

001 I have read the above report and find that it is inaccurate. It appears to include verbatim, material from the study done on the Tumco and American Girl Mines (Draft Environmental Impact Statement, Oro Cruz Operation April 1994). For example, the listing of mammals in the area is erroneous.

002 Aside from the poor quality of the report, the proposed Mining operation is immoral and destructive. Further, it will not repay the people of Southern California and out-state visitors (snow-birds) for the loss of a valuable recreational and educational resource. The mine as with the Mesquite Mine, American Girl Mine, Tumco and Picacho Mines, will change the environment for the worse and destroy the natural phenomena, the geology, climatic conditions, and most of all it will destroy forever the historical and archaeological aspect of the area.

003 My wife and I have camped at Indian Pass for thirty years, in every month of the year and agree with Colin Fletcher in his THE THOUSAND MILE SUMMER that this area is about the last wilderness in the United States. I teach a class at San Diego State University that deals with the history, archaeology and ethnobotony of Indian Pass as well as the Tumco area. I have a very extensive knowledge of the area. I realize and pray that it must be maintained and its pristine and natural condition be preserved so that Californians and out-state visitors can see, feel, and appreciate our history.

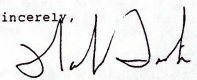
Malcolm Rogers in ANCIENT HUNTERS OF THE SOUTHWEST, a book that is devoted to the Indian Pass area, has stated and the Quechan Indians have supported this view, that the area is littered with Early Man tools, petroglyphs, sleeping circles, trail shrines, and ancient trails. These will be lost forever if mining is permitted.

004 Mining, besides being destructive and immoral, is a dirty business. It is noisy, it kills birds and destroys the environment, in that visually Indian Pass will no longer be

beautiful to visitors who must pass the operation surrounded by high chain link fences with scissor wire strung along the top, resembling a high security prison with signs pretending the farceful illusion that the area is "protecting the Desert Tortoise!"

005 I urge that the request to mine Indian Pass be denied. Indian Pass is eligible for inclusion in the National Register of Historic places and the area would be adversely affected by mining operations. It would, also, impact on access roads to Gavilan Wash, Picacho State Park, and the Colorado River.

Sincerely,



Dr. Robert T. Fisher, Ed.D, J.D.
1878 Rancho Jorie
Alpine, CA 91901

RESPONSE TO COMMENT LETTER J002 RECEIVED FROM ROBERT T. FISHER, Ed.D, J.D., JANUARY 3, 1998

Response to Comment J002:001: The Biological Survey Report is contained in Appendix H of the Draft EIS/EIR, and is summarized in Section 3.5.6.2. (pages 3-71 through 3-81) of the Draft EIS/EIR. As stated in Appendix B to Appendix H of the Draft EIS/EIR, the species list produced as a result of the wildlife survey lists only those "vertebrate species observed during surveys of the Chemgold Imperial Project site and vicinity, Imperial County, California." However, the survey is valid for all federal or state threatened or endangered wildlife species that could occupy the Project area. The methodology employed in the survey is described in Section 3.5.6.2. (page 3-71) of the Draft EIS/EIR and Section C of the Biological Survey Report (Appendix H of the Draft EIS/EIR).

Revisions to the Final EIS/EIR: None.

Response to Comment J002:002: See Response to General Comment 002.

Response to Comment J002:003: See Response to General Comment 002.

Response to Comment J002:004: See Response to General Comment 002.

Response to Comment J002:005: See Response to General Comment 002.

6995 Camino Amero
San Diego, CA 92111
January 27, 1998

J003

Bureau of Land Management
1661 South 4th Street
El Centro, CA 92243
Attention: Douglas Romoli

Subject: Comments on the Imperial Project Draft Environmental Impact Statement/Environmental Report, November 1997
Attachment: (a) Comments on the Imperial Project DEIS/EIR

Dear Mr. Romoli:

001 I have conducted a detailed review of the Imperial Project Draft Environmental Impact Statement/Environmental impact Report and have concluded that the environmental costs of the Preferred alternative to strip mine and extract precious metals using the heap leach technology do not justify its approval. I strongly urge you to select the No Project Alternative. The following comments summarize the reasons for my opposition to the Project.

My review of the DEIS/EIR shows that it does not adequately address a number of issues. These are presented in Attachment (a). These comments are based on my engineering background and my experience of over 20 years as a volunteer involved in environmental issues.

002 In my opinion, the proposed strip mining project represents a massive destruction of irreplaceable resources Should the project be approved, cultural and natural resources of significant importance not only to the Native Americans, the Quechans, but also to the rest of us and the generations yet to come would be lost. And for what ends? It is to use open pit mining and leap leach processing to extract gold from very low grade ore. This gold would be used primarily for jewelry. The area of land that would be destroyed, 1340 acres, and the amount of the earth to be dug up, 450 million tons, to get in return about one ounce of gold for every 200 tons earth (waste rock and ore) demonstrates how much this mining technology can exploit and waste the environment. Furthermore, the project is very energy intensive, using 4 million gallons of diesel fuel each year. The economic gains from this project compared to the loss of the priceless values of the cultural and natural resources represented in this undisturbed area not, does not, in my view, present an acceptable tradeoff.

Driven by the economic costs, the project proponent will not fill in the largest open mine pit, the East Pit. The reclamation plan is a futile attempt to restore the area. Being a desert, it will take thousands of years for the topsoil of the area to return to even some

semblance of its native condition. The legacy of the project would be a permanent scar left by the unfilled 800 foot deep East Pit and the 500 foot high waste rock and leach piles.

Because of the falling prices of gold, now less than $300 per ounce, the expected financial returns will be problematical, even possibly below the break even point. In a January 14, 1998 press release, the proponent, Glamis Gold reported that it is taking measures including a 35% reduction in force to respond to the declining gold prices. This raises a concern that the should the project be approved and the volatility of the gold prices continues, there will be a strong incentive by the proponent to cut corners. Mitigation measures including reclamation for this proposed project may likely be compromised in order to save operating costs.

Again, I strongly urge you to not approve the proposed project and select the No Action Alternative.

Sincerely,

Edward M Kimura

Edward Kimura

003 1. The DEIS/EIR does not provide sufficient information on the processing facility where precious metals are extracted from the pregnant solution for the reader to understand its environmental impacts. Except for the arcane data in Appendix O on the emissions from the processing facility a discussion on the environmental assessment of this facility is absent.

004 2. The description of the heap leach pad liner fabrication by phases is not clear. The DEIS/EIR should have provided an illustration of the heap leach piles associated with each of these phases. Referring to Fig 2-4 which shows the final contours of the heap leach pile it appears that the heap leach pile has been built up in two dominant piles. It is not clear from the description of the pad liner if it will only line the base of the heap leach pile or if it will be added over each spent leach pile. In any event, the description does not provided adequate information for the reviewer to determine the potential for leaks and other environmental impacts of the heap leach pile.

005 3. The DEIS/EIR does not adequately address the possibility of leach pad liner leaks due to the stresses imposed by the heavy burden of the 300 foot leach pile. No analysis is presented to show that the compressive, shear and tensile loads imposed by the overburden are well below the liner limits. Furthermore, the liner can fail due to plastic deformation (creep) over time. Nor are the stresses due to seismic activity discussed. The DEIS/EIR reports that the project is located in a seismic quiet zone. However, it fails to note that Imperial County experiences numerous but small seismic events. Even if the ground accelerations are attenuated when they reach the project area, these numerous small seismic loads over the lifetime of the project can exacerbate liner failure due to fatigue. The possibility of liner failure due to repetitive shock loads from rock blasting has not been analyzed.

006 4. The discussion in Vol. I, pages 4-22 and 4-23 of the DEIS/EIR pertaining to mitigation of leach pad liner leaks is inadequate. First it states that the leak would be repaired if the height of the heap when the leak is first detected is "not too great". Who determines what is meant by "not too great"? The project proponent? Another remediation measure cited is to reduce or eliminate the application of the leach solution to that portion of the heap located over the leak. How can the leak be located with sufficient accuracy for repairs? It is not clear from this explanation that by eliminating the leach solution over the leak that that leachates applied at other locations would not migrate toward the leak. Nor are leaks due to rain on the leach pile considered. The DEIS/EIR then goes on to rationalize a leak by saying that remediation is not required because the "weak cyanide solution degrades rapidly as the pH drops and it is oxidized in the air" ..etc. There is no specific definition of "rapidly degrades". Furthermore, there is no discussion of the pH of the soils beneath the liner and the availability of oxygen underground. What is clear by this discussion is that the purpose of the liner is to convey the pregnant solution and that decision to repair the leak will be economically driven with little concern over the environmental consequences.

007 5. Vol. I, page 4-36 of the DEIS/EIR notes that the particulate based HAP's annual emissions are less than .01 tons (20 pounds). The air quality analysis in Vol. II Appendix O shows no HCN emissions from the cyanide application and leaching, pregnant solution pond, barren solution pond, wind erosion (heap leach pad) - non-

leach, and wind erosion (heap leap leach pad) - leach. Nor are any CN^- related emissions noted. This should be explained. The only HCN emitters noted are in the process plant. The DEIS/EIR notes on page 2-16 that sprinklers may be used to apply the barren cyanide solution after major storm events to hasten the evaporation of excess water. This practice would emit cyanide particulates. Furthermore, it is not explained why wind erosion of leachate laden ore and wind blowing over the solution ponds would not pick some quantity of the leachate. Consequently, it is very difficult to believe that the process plant is the only source of cyanide emissions. The annual usage of sodium cyanide is estimated at 1750 tons. The total HCN emissions is given as 47.5 pounds per year. This amounts to only 0.0014% of the annual amount of sodium cyanide. The creditability of the cyanide related HAP analysis presented must be questioned.

008 6. Vol. II, Appendix O calculations for the hydrocyanic acid emissions from the barren and pregnant solution ponds use NaCN concentrations of 25 ppm.. However, page 2-24 of Vol. I states that the cyanide concentration of the leachate is maintained between 200 to 350 ppm. Explain the difference.

009 7. The DEIS/EIR does not address the impacts of the project generated fugitive dust, PM_{10} and airborne HAP's, settling on vegetation which in turn are eaten by the animals within the fallout environs of the project. The long term effects on these animals of exposure to non-lethal cyanide is not addressed. Animal exposure pathways including inhalation and ingestion of these particulates should be examined.

010 8. The DEIS/EIR does not address the toxic effects to predators and scavengers eating small animals such as birds, reptiles, rodents which could penetrate the various fences including the tortoise exclusion fencing and netting barriers, drink the cyanide laced leachate solutions, and return to the outside of the barriers and to live with the toxin or die. It appears that neither the 0.5 inch mesh hardware cloth fence surrounding the leach heap nor the netting over the ponds can not effectively prevent small animals from getting to the leachate solutions. Measures to prevent animals from being attracted to the leachate drip irrigators or to the sprinklers being used to evaporate the excess water from the leachate following a major storm has not been addressed.

011 9. The DEIR/EIS explains how the leachate solution is recycled after it has passed through the carbon adsorber to remove the precious metals. Besides the precious metal, what other metals are leached out by the cyanide and how much of these metals are adsorbed or pass on through? What are the increases in the chemical constituents of the barren solution over time? Hazardous compound increases, if any, in the leachate over time and the consequent impacts of the fugitive dust from the heap leach piles should be addressed.

012 10. The DEIS/EIR does not address the long term health effects on the mine workers caused by chronic exposure to low levels of cyanide and inhalation of particulates sized PM_{10} or smaller.

013 11. The DEIS/EIR does not compare the plant productivity of the soils in disturbed area not replenished by the stockpiled topsoil before and after the mine closure. This comparison should include soil chemistry and microorganisms analyses.

014 12. The DEIS/EIR notes that the mining will increase the volume of the waste and ore rock piles. The rate of erosion and subsidence of these lower density rock piles compared to the native conditions should be addressed.

015 13. The heap leach neutralization procedure is not adequately described It does not specify which of the evaporation methods, ponds or sprinklers will be used nor the neutralizing agent if any. The environmental impacts of evaporating the leachate as it is being neutralized have not been adequately addressed.. The impacts of the chemical residues from evaporating process on the air quality, soil chemistry, and groundwater needs to be analyzed. Methods to prevent birds and other animals from getting to the leachate during the neutralization period is not addressed.

016 14. Impacts of the leach pad liner on the post closure storm water flows is not discussed.

017 15. The DEIS/EIR does not address the energy impacts of the Project.

RESPONSE TO COMMENT LETTER J003 RECEIVED FROM EDWARD KIMURA, DATED JANUARY 27, 1998

Response to Comment J003:001: See Response to General Comment 002.

Response to Comment J003:002: See Response to General Comment 002.

Response to Comment J003:003: Section 2.1.8. (page 2-14) of the Draft EIS/EIR describes the ore processing facility.

> "The gold/silver-bearing pregnant solution is then pumped from the pregnant pond to the processing facility, where the precious metals are extracted from the solution by way of a carbon adsorption process. The resultant "barren" solution, from which the gold/silver has been removed, then flows to the barren solution storage pond for the addition of makeup water, sodium hydroxide, and sodium cyanide, as necessary, before being pumped back to the heap to begin the cycle again. The carbon from the adsorption process is stripped of its gold/silver by a stripping solution, from which the gold/silver is then electroplated onto steel wool or stainless steel cathodes. The gold/silver-bearing cathode material is shipped off-site for final refinement."

As also stated in this section, "This methodology is currently utilized by Chemgold, Inc., Glamis Imperial's sister company, at its Picacho Mine, located eight (8) miles east of the Project mine and process area; by other companies at the two (2) other mines located in the vicinity of the Project mine and process area; and at numerous other mines throughout the western United States."

The only environmental effects of the process are the small air emissions of hydrogen cyanide from the carbon adsorption tanks, cyanide make-up tank, strip tank, and electro winning cell; and hydrogen chloride from the acid wash tank (specifically discussed in Appendix O to the Draft EIS/EIR) and a minor amount of waste (as discussed in Section 2.1.9.5. [page 2-25] of the Draft EIS/EIR). The potential for spills of the hazardous process chemicals from the process facility is *de minimus*, and discussed in Section 4.1.3.1.2. (page 4-11); Section 4.1.3.2.2. (page 4-22); and Section 4.1.12.2. (pages 4-121 through 4-123) of the Draft EIS/EIR. Mitigation measures to prevent the release of these chemicals are described in Section 4.1.3.1.3 on page 4-16 and 4-17 of the Draft EIS/EIR, and include Mitigation Measure 4.1.13.1-3 which requires that "Major maintenance of equipment shall be conducted within the concrete-paved and bermed areas of the maintenance yard to the extent possible to minimize accidental discharges . . . ."

Revisions to the Final EIS/EIR: None.

Response to Comment J003:004: See Response to Comment E001:009.

Response to Comment J003:005: See Responses to Comments E001:009 and E001:010.

Response to Comment J003:006: See Response to Comment E001:009.

Response to Comment J003:007: (See Also Response to Comment I011:004.) The comments regarding HCN emissions apparently confuse the Project annual emissions of HAPs (listed in Appendix I of Appendix O of the Draft EIS/EIR) with the total estimated emissions of HCN. As indicated in Section 4.1.4.2. (pages 4-35 and 4-36) of the Draft EIS/EIR, hazardous air pollutants ("HAPs") are specifically defined by regulations under Title V of the CAAA, and only those HAP emissions from fugitive sources which are "reasonably quantifiable" must be counted to determine the applicability of these emissions for Title V. Appendix I of Appendix O of the Draft EIS/EIR ["Total Facility Potential to Emit for Title V Applicable Hazardous Air Pollutants (HAPs)"] lists only those emissions of HCN which, under current EPA and ICAPCD guidance, were determined to be reasonably quantifiable emissions, and thus "HAPs." HCN emissions from other fugitive sources which were determined to not be reasonably quantifiable are estimated in Appendix E to Appendix O of the Draft EIS/EIR. These other fugitive sources of HCN include the heap leach pads ("cyanide application and leaching"), the pregnant solution pond, and the barren solution pond. The annual cyanide emissions from these additional sources are estimated at a total 1.99×10^4 pounds, or 9.94 tons, per year. Wind erosion of particulates from the heaps are not expected to add to the HCN emissions. The Draft EIS/EIR (Section 4.1.4.2, page 4-39) determined that the impact of all emitted air toxics was below the level of significance.

Revisions to the Final EIS/EIR: None.

Response to Comment J003:008: (See Also Response to Comment J003:007). Both statements cited by the comment regarding the concentration of NaCN in the barren solution are correct. Appendix C to Appendix O uses a NaCN concentration in the barren solution pond of 25 ppm because the additional NaCN needed to increase the NaCN concentration in the barren solution to the 200 ppm to 350 ppm necessary for effective leaching of the ore is added after the barren solution leaves the barren solution pond. As stated in Section 2.1.9.4. (page 2-24) of the Draft EIS/EIR, "Sodium cyanide solution would be metered directly into the barren solution in the pipes leaving the barren solution pond for application to the heap. The cyanide concentration of the barren solution applied to the heap would be maintained at the desired 200 to 350 parts per million (ppm) for effective leaching of the ore."

Revisions to the Final EIS/EIR: None.

Response to Comment J003:009: Section 4.1.5.2. (pages 4-46 through 4-48) of the Draft EIS/EIR discusses the potential long-term effects of particulate matter deposition from Project operations on vegetation in the vicinity of the Project area. No long-term adverse effects were expected. Long-term exposure effects of Project-generated fugitive dust, PM_{10}, and HAPs, including non-lethal levels of cyanide, on wildlife through both inhalation and ingestion were not identified during either of the two scoping periods as an issue of concern, nor have they been identified as a significant issue at other heap leach precious metal mines in the arid areas of the southwest, and so were not specifically addressed in the Draft EIS/EIR. However, because the state and federal primary ambient air quality standards (see Table 3.7 [page 3-33] of the Draft EIS/EIR) are human health-based standards (that is, set to protect the public health [see 40 CFR 50.2(b)]), and Project operations will not exceed these standards, it is extremely unlikely that significant adverse effects to wildlife would occur from long-term exposure to Project-generated fugitive dust, PM_{10}, and HAPs, including non-lethal levels of cyanide, either from inhalation and ingestion. Specifically, several mitigation measures ((see Mitigation Measures 4.1.5-1, 4.1.5-3 and 4.1.5-34) have been specifically proposed to prevent wildlife contact with even non-lethal concentrations of cyanide.

Revisions to the Final EIS/EIR: The Final EIS/EIR will be revised by adding the following assessment as the third full paragraph on page 4-54 of the Draft EIS/EIR:

> Fugitive dust (PM_{10}) and low, non-lethal concentrations of cyanide and other hazardous air pollutants (HAPs) from the Project could settle on vegetation outside of the Project mine and process area and result in the long-term exposure of wildlife to these emissions either through inhalation or ingestion pathways. As discussed in Section 4.1.4.2, air emissions of PM_{10} and HAPs would not result in exceeds of either the federal or California air quality standards. These standards are human-health based set to protect the health of sensitive populations. Ponds containing cyanide solutions and other HAPs will be covered, and the Project mine and process area will be fenced to keep wildlife away from potential exposure to harmful substances used at the site. It is extremely unlikely that adverse effects to wildlife would occur from long-term exposure to Project-generated PM_{10} or HAP emissions, either from direct inhalation or by ingestion through consumption of vegetation near the Project site, and this impact would be below the level of significance.

Response to Comment J003:010: See Response to Comment J003:009.

Response to Comment J003:011: The weak cyanide process solution forms cyanide complexes with gold (Au), silver (Ag), copper (Cu), mercury (Hg), selenium (Se), and thallium (Tl), each of which are preferentially adsorbed onto the activated carbon in the process facility and removed from the solution. In addition, lead (Pb), zinc (Zn), and cadmium (Cd) may also form cyanide complexes, and these and arsenic (As) and iron (Fe) cyanide complexes would likely precipitate out of the

solution in the heap. Since the concentrations of these "metals" is low (relative to many other mines) in the ore (see Appendix O of the Draft EIS/EIR), and those areas of the heap which are under leach have very low fugitive emission rates (as the application of the process solution wets the surface of the heap and prevents the entrainment of most of the dust by wind; see also Appendix O of the Draft EIS/EIR), there would be no reason to expect a substantial change (increase) over time in the emissions of these "metals" in the fugitive dust from the heap.

Revisions to the Final EIS/EIR: None

Response to Comment J003:012: The Imperial Project would be required to comply with the applicable Mine Safety and Health Administration (MSHA) regulations regarding worker health and safety for chronic exposure to low levels of cyanide and particulates sized PM_{10} or smaller, and compliance with these regulations is both assumed in the Draft EIS/EIR and required under Mitigation Measure 4.1.12.9. Since these regulations are designed to protect worker health and safety, additional analysis is not required because the impact is presumed to be insignificant and there is no evidence to the contrary.

Revisions to the Final EIS/EIR: None.

Response to Comment J003:013: It is not clear what this comment requests, since it is not possible for the Draft EIS/EIR to make comparisons of the plant productivity of the soils in disturbed areas not replenished by the stockpiled topsoil before and after the mine closure since it is not possible to make a comparison with something that has yet to exist. However, as stated in Section 2.1.11.3.4. (page 2-44) of the Draft EIS/EIR, experience at the Picacho Mine has shown that the neutralized, leached ore on the heap is an excellent growth media:

> "A minimal amount of useful soil (growth media) exists within those portions of the Project mine and process area to be disturbed. However, salvaged and stockpiled soils which remain after completion of diversion channel reclamation would be distributed as equitably as possible to all the areas to be revegetated. Revegetation experience at the Picacho Mine indicates that the neutralized leached ore on the heap is excellent in-place growth media. Based on this experience, little or no soil is needed on the leach pad to achieve revegetation success. With that in mind, the remaining stockpiled soil would be used as needed to reclaim waste rock stockpiles, haul roads and ancillary facilities areas."

Further, as stated in Section 2.1.11.3.3. (page 2-43 and following) of the Draft EIS/EIR, revegetation test plots would be set up and monitored for the life of the Project to test, develop and modify reclamation methods:

"In order to provide the basis for specific reclamation methods and techniques which would be used at the Project, revegetation test plots would be set up early in the mine life. The objective of the test plot program is to provide long-term plots which would be evaluated throughout the mine life, and to utilize test plot results to modify and continue developing reclamation methods."

"All revegetation treatments would be based on the Project test plots developed for the site-specific conditions of the Project area. Treatment may be the same as have been used elsewhere, such as at American Girl or Picacho Mines, but would be designed for environmental conditions specific to the Project. Ongoing monitoring of Picacho Mine reclamation, and Imperial Project concurrent and interim reclamation, would provide additional information for refining the Project seeding and revegetation plan, which would be updated with new information subject to the concurrence of the BLM and Imperial County, prior to the start of final reclamation and decommissioning of the Project area."

"Revegetation testing would be conducted during the life of the Project when areas become available. A seed collection program was initiated in 1996 and would continue to be conducted periodically throughout the life of the Project. This would provide a seed bank of native, acclimatized vegetation for the revegetation effort. To aid in the revegetation of the Project mine and process area, the naturally vegetated areas between the disturbed areas, such as between roads and pits and the undisturbed, fenced portion of the central wash, would be managed as undisturbed buffers to serve as a natural seed sources and provide protection for small mammals, birds, and reptiles."

Revisions to the Final EIS/EIR: None.

Response to Comment J003:014: As stated in Section 2.2.3. of the Draft EIS/EIR, broken rock does occupy a greater volume than the same volume of solid rock, and is therefore of lower density. However, as also stated in Section 2.1.11.2.2., Section 2.1.11.2.3., and Section 2.1.11.3.2. of the Draft EIS/EIR, there are numerous methods to be employed by the Project to control and/or minimize erosion, including regrading and contouring on the tops and slopes of the waste rock stockpiles and the leach pad to minimize erosion potential and prevent the undesirable pooling or ponding of water. Section 4.1.2.2. describes the possible erosion impacts of the Project, and specifically states on page 4-6 that ". . . substantial erosion would not be created and the impacts of erosion would not be significant."

Section 4.1.2.2. discusses the possibility of subsidence related to the extraction of ground water from the ground water well field, but subsidence is not anticipated from either the waste rock stockpiles or the heap. There may be some compaction of the broken rock in the waste rock stockpiles and the

heap as these structures are being constructed. Because the rock forming these structures is very coarse, the compaction would be very small, and would be eliminated as additional lifts are added.

Revisions to the Final EIS/EIR: None.

Response to Comment J003:015: Section 2.1.11.2.5. (pages 2-41 through 2-42) of the Draft EIS/EIR discusses neutralization of the heap leach. Specifically:

> "Prior to initiation of reclamation, neutralization of the heap leach pile would be accomplished by rinsing with fresh water to reduce cyanide levels to meet the requirements of the WDRs to be issued by the CRWQCB before use of the leach facility can commence. A neutralizing agent may be added to the process waters and rinse solutions to reduce the cyanide level to meet CRWQCB standards. Sampling and laboratory testing would be conducted to evaluate and verify completion of the neutralization process at the conclusion of heap rinsing. ... All neutralized process waters and rinse solutions would be evaporated in the ponds or by sprinklers on the heaps, or land applied. Process water ponds would then be reclaimed, but the final neutralization and reclamation of the ponds would not occur until the neutralization of the heaps is complete to the satisfaction of the CRWQCB."

Neither the specific agent which may be used to neutralize the process waters, nor the method which may be used to evaporate the neutralized process waters, is known at this time. However, Section 4.1.3.1.2. (page 4-11) of the Draft EIS/EIR found that "the leachates which may be formed from precipitation moving through the waste rock or leached ore would have very low concentrations of metals, which would not degrade the quality of surface waters."

Mitigation Measure 4.1.5-3 requires the Applicant to "cover the pregnant and barren solution ponds with either small-mesh nets; a solid, 40-mil, HDPE/polypropylene cover; floating plastic balls; or equivalent cover acceptable to the BLM to keep wildlife out of the ponds." This same mitigation measure requires the Applicant to "maintain the cover over the life of the Project."

Revisions to the Final EIS/EIR: None.

Response to Comment J003:016: See Responses to Comments E001:009 and E001:010.

Response to Comment J003:017: Section 4.1.11.2.2. ("Utilities"), page 4-117 of the Draft EIS/EIR, documents that implementation of the Proposed Action would result in a net positive effect on the electric utility system, and that there would be no adverse effect on water utility systems, natural gas service, or telephone service as a result of the Proposed Action.

Further, as stated in Section 4.1.11.2.2. (page 4-117) of the Draft EIS/EIR, "The Proposed Action is not expected to generate significant population growth (see Section 4.1.10.2.), and therefore any significant demand for local utility services, in the communities in which any Project employees and/or contractors, and their respective families, who may relocate for their job with the Project."

Section 6.2 (page 6-2) of the Draft EIS/EIR concludes that "The extracted ground water and mineral resources represent irretrievable commitments of these local resources to the development of the Proposed Action. In addition, all of the energy, fuels, and other materials (such as processing chemicals) imported to the Project mine and process area which are consumed represent irreversible and irretrievable commitments of resources to the Project."

Revisions to the Final EIS/EIR: None.

Feb. 12,1998

J004

B.L.M. Office
1661 S.4th.St.
El Centro,CA 92243
Attn. Doug Romoli

Dear Sir,

001 Thank you for sending us a copy of the Imperial Project, Imperial Co. CA. EIS/EIR.

We are writting to state again, our opposition to that Project. Also to share with you some research that I have done that tie the Running Man of Indian Pass Rd. to an Ancient American diety. (see attached)

We respectfully ask for another public hearing after there has been more time to review the documents.

Also, please use the comparative value test for the validity examination & to declare the mining claims null & void because the aesthetic & cultural resources are more valuable than the very low grade gold that could be mined in that area.

There is so much more to be learned about the Native American heritage in that area we must not lose it now when we are just at the point of learning about the sacred history of Indian Pass.

Thank you for saying no to the Imperial Project.

Dorothy and Ronald Wilke
1362 Flood Rd.
Winterhaven, CA.92283

Dorothy Wilke
Ronald Wilke

cc Senator Barbara Boxer
525 B St. #990

002 My subject is an Ancient American diety of war, his Aztec name is Huitzilopochtli, in English it means, Left-handed Humming-bird.

I am attempting to show a connection between Left-Han ded Hummingbird & the Running Man near Indian Pass Rd.

There doesn't seem to be much info. about the Running Man but this is what I have learned about a Meso-Aamerican diety called 'The Runner',AKA Left-Handed Hummingbird!

It was the Aztec diety Huitzilopochtli (L.H.H.B.) who told his followers not to settle any place until they saw an eagle perched on a cacti, holding a serpent in it's mouth. This is the emblem on the Mexican flag.

It was this tribal diety, who in Aztec cosmolgy became the Divine Sun & also the god of war.

Meso-American Dietys had multi personalitys, One of L.H.H.B.'s personalitys was called Paynalton, for Payna meaning to run!

One story says Paynalton was a delegate, a substitue because he represented L.H.H.B. when there was a ceremonial procession. He was named Paynal because he pressed & urged them ahead. And the people followed, jostling, howling, roaring. They made the dust rise, it was like they made the ground smoke.

As Paynal, the Runner was leading the procession he was ritually 'purifing' the area within the circuit. At the completion of this circuit, the procession arrived in front of the temple of L.H.H.B.

The original deities of the Mexican patheon are few in number, so when the Mexicans engaged in a war if defence of the liberty and sovereignty of their country, they invoked their war god under his aspect & name of L.H.H.B. but when suddenly attacked by enemies, they called upon the same diety under his aspect & name of Paynal the Runner, which implied God of Emergencies.

The Running Man figure at Indian Pass Rd. is very close to the intersection of two ancient trails. One trail in that area is the Mohave War Trail, an other one is called Trail of Dreams.

I'm not sure if these legends have any thing to do with the Running Man, but at least we know there was an ancient diety called 'The Runner'

One other clue we can use to connect the Running Man with this Aztec diety is the story about deceased warriors.

It was believed that L.H.H.B. became the Divine Sun. Those deceased warriors who became companions of the sun had a unique destiny.

Four years after death, they were transformed, returning to the earth as gorgeously feathered hummingbirds & other multi-colored birds & butterflies.

There are hummingbird glyphs at Sears Point & at the Oatman Site, so that tells up the indigeous people included the humming-bird in their belief system.

This H.bird is shown beside a dead person. This glyph is at Sears Point.



The trail intersection near the Running Man is the Quechan's sacred 'Window to Another World.' When you walk the trail through the Window, you are transported back in time, as you go from one life into another you can get in touch with loved ones that have passed on. When you reach the rock alignment on the return trail you have reentered the visible world.
(EIS/EIP Vol.2)

Boma said that there are at least 34 hummingbird glyphs at the Oatman Site.

Dorothy Wilke
1362 Flood Rd.
Winterhaven,CA. 92283

(760)572-0494

RESPONSE TO COMMENT LETTER J004 RECEIVED FROM DOROTHY AND RONALD WILKE, DATED FEBRUARY 12, 1998

Response to Comment J004:001: See Responses to Comments I010:006 and I015:007.

Response to Comment J004:002: Comment noted.

Revisions to the Final EIS/EIR: None.

1560 Bancroft Way, #87
Berkeley, CA 94704
February 19, 1998

J005

Bureau of Land Management
1661 South 4th Street
El Centro, CA 92243
Attn: Douglas Romoli

re: Glamis Imperial Project
DEIS: Request for Another
Extension of Comment
Period

Gentlemen:

001 I am writing to request another extension of the time period for public comment on the DEIS of the proposed Glamis Imperial Project. The shortness of time available significantly limits my ability to evaluate the DEIS in a complete fashion. The unusual El Nino weather and the onslaught of the cold-and-flu season has considerably complicated my ability to study the DEIS and relevant issues, and it seems likely that others wishing to study the DEIS and to submit their comments likewise find the comment period too short.

A spot check of the discussions of environmental impact in volume 1 of the DEIS reveals some major defects in the studies of environmental impact. This suggests that there are a great many similar defects in those discussions. (See my accompanying letter of "preliminary comments" on the DEIS.)

Thus, in particular, more time is needed to study those discussions.

Yours truly,

Richard Haney

Richard Haney

2560 Bancrort Way, #87
Berkeley, CA 94704
February 19, 1998

Bureau of Land Management
1661 South 4th Street
El Centro, CA 92243
Attn: Douglas Romoli

re: Glamis Imperial Project
DEIS: Preliminary
Comments

Gentlemen:

002 I am writing to express my comments on the proposed Glamis Imperial Project. In summary, I am opposed to the project. I favor the "No Action" alternative.

The project would involve a substantial disturbance to the Indian Pass-Running Man Area of Traditional Cultural Concern, an area of major spiritual significance to the Quechan Native American Tribe.

The spiritual value of natural, wilderness-like land is of major concern to a great many Americans today and will be to a great many Americans of future generations. In addition to the special significance of the land to the Quechan tribe, native Americans also lead the way for others in the appreciation of the spiritual value of wilderness-like land.

I also wish to register a formal protest of the effective unavailability of volume 2 of the DEIS. I requested a complete copy of the DEIS, but I was sent only volume 1. When I again specifically requested volume 2, I was told that the BLM was out of stock in volume 2.

Volume 2 evidently contains many details concerning the studies of expected environmental impact, and thus the lack of volume 2 significantly limits my ability to evaluate the DEIS in a complete fashion.

Furthermore, I wish to formally protest the short time available for comment. The shortness of time further significantly limits my ability to evaluate the DEIS in a complete fashion. (I am writing a separate letter specifically to request an extension of time beyond the short, one-month extension already granted.) The unusual El Niño weather and the onslaught of the cold-and-flu season has considerably complicated my ability to study the DEIS and relevant issues, and it seems likely that others wishing to study the DEIS and to submit their comments likewise find the comment period too short.

003 In the event that the project is approved, I urge that Glamis Imperial Corporation be required to refill all the open pits upon completion of mining activities. Moreover, small indestructible signs (or, say, small "monument(s)") should be posted stating that an open pit mine was located at the site. The signs should provide the parameters of time period and physical dimensions. There should also be a sign specifically identifying the leaching area. The purpose of the signs is to notify any geologist, archeologist, biologist, or other scientist (amateur or otherwise) that the site has been substantially disturbed and so that such a person would not "naively" waste his time exploring the area to study the natural or human history dating before the mining operations.

The signs should not impair the scenic value of the area after restoration. Yet the signs should be prominent enough so that anyone exploring the area would readily find them.

Other Comments

The following comments are based on spot checks of the DEIS's discussion of environmental impact. These spot checks suggest that there may be a great many similar inadequacies in the discussions of environmental impact.

004 There appears to be some inconsistency in the designation of storm events on pages 4-9 to 4-11 (vol. 1). Reference is made to a 100-year, 6-hour precipitation event and also a 100-year/24-hour event and a 500-year, 24-hour storm and a 100-year/24-hour storm event. It appears that the terminology suggests that 6-hour events are expected to occur every 100 years on the average and 24-hour events are expected to occur every 500 years. But the terminology seems to also suggest that 24-hour events occur every 100 years, which contradicts the 500-year interval for 24-hour events as well as the 100-year interval for 6-hour events. (Presumably, longer events occur less frequently.)

005 On page 4-39 (vol. 1) it appears that meteorological modeling was done using data for the year 1989 only. Yet no discussion of data or model variability was provided. It is well known that meteorological data varies considerably from year to year in most areas. If that is not the case for the proposed project site, the DEIS should say so and provide scientific evidence. Thus, the modeling discussed on page 4-39 seems to be highly questionable.

A Summary of Additional Issues

006 The project will inhibit or destroy the Quechan's ability to use the Indian Pass-Running Man ATCC for traditional cultural educational programs.

The project will cut off the ability of the Quechan to travel physically and spiritually along the Trail of Dreams.

The project will have a cumulative effect on traditional cultural sites in Quechan territory in that Quechan religious beliefs connect surrounding lands as after-death resting places for their spirits.

Numerous prehistoric cultural resources determined eligible for the National Register of Historic Places would be subject to either direct or indirect impact.

The generally natural creosote/occotillo desert valley would be visually marred by miles of 300-foot high ore and waste rock piles, and solitude would be destroyed.

The noise from trucks running 24-hours per day and frequent blasting is unacceptable.

Mine lights shining 24-hours per day is an unacceptable visual impact.

There would be disturbance to wildlife. In particular, the project may interfere with a possible bighorn sheep corridor.

Plant life would be destroyed. 130 acres of Microphyll woodland would be impacted.

Yours truly,

Richard Haney

Richard Haney

RESPONSE TO COMMENT LETTER J005 RECEIVED FROM RICHARD HANEY, DATED FEBRUARY 19, 1998

Response to Comment J005:001: (See Also Response to General Comment 002.) Comment noted. The comment period deadline was extended from January 27, 1998 to April 13, 1998.

Revision to the Final EIS/EIR: None.

Response to Comment J005:002: (See Response to General Comment 002.) Comment noted. The comment period deadline was extended from January 27, 1998 to April 13, 1998.

Revision to the Final EIS/EIR: None.

Response to Comment J005:003: The complete pit backfill alternative is one of the Project alternatives analyzed in the Draft EIS/EIR. In the event the Project is approved and the complete backfill alternative is selected, sufficient documentation will be available in the public record to inform future scientists and interested public of the mining history in the Project area. Marking the former mine site with post-reclamation signs does not appear to be warranted.

Revisions to the Draft EIS/EIR: None.

Response to Comment J005:004: See Response to Comment E001:011.

Response to Comment J005:005: As stated in Section 4.1.4.2. (page 4-39), "Surface meteorological data for the year 1989 from the National Weather Surface (NWS)-operated Yuma Air Station, combined with upper-air data from the NWS-operated Tucson Upper Air Station, was used, as it provided the most readily and reasonably available meteorological data set for the modeling." As further explained in Section 2.2.4. (page 29) of Appendix O to the Draft EIS/EIR:

> "Pursuant to discussions with the ICAPCD, EMA utilized surface meteorological data for the year 1989 from the National Weather Service (NWS) Yuma Surface Station (Yuma, AZ), combined with upper air data (also for 1989) from the NWS Tucson Upper Air Station (Tucson, AZ)."
>
> "The Yuma Surface Station is the NWS-operated, 24-hour station located closest to the Proposed Action, approximately 20 miles south-southwest of the Project mine and process area. Given the proximity and similar elevations between Yuma and the Proposed Action, the Yuma data was expected to be reasonably representative of the Project mine and process

RESPONSE TO COMMENT LETTER J005 RECEIVED FROM RICHARD HANEY, DATED FEBRUARY 19, 1998

area. According to meteorologists at the National Climatic Data Center (NCDC), 1989 was the last year of complete data from the Yuma Station, and, as such it was the year selected."

"The NWS does not currently maintain an upper air station in Yuma, and does not have 1989 upper air data for Yuma. The Marine Corps Air Station (MCAS), Yuma does collect some upper air data, but the MCAS does not collect nor maintain complete upper air data records. Although the Tucson Upper Air Station is not as proximate to the Project mine and process area as a few other sites with upper air data, it is the closest site to the area for which upper air data was believed to be representative of upper air conditions found in the area of the Proposed Action. In addition, a complete 1989 upper air data set was available for Tucson."

Meteorological data can and does vary year-to-year. However, from an air modeling perspective, these variations diminish in importance to determining a representative maximum air pollutant concentration if the necessary averaging period is short (since there are 8,760 one-hour, or 365 24-hour, combinations of wind direction, wind speed, and stability class in one year's data, but only one annual combination). Variations also diminish in importance if the pollutants are principally emitted as fugitives close to the ground surface since the impacts will be concentrated immediately around the boundary of the project, which substantially reduces the number of potential maximum receptors and the potential for substantial elevation effects on ambient concentrations. The air pollutants emitted by the Project of greatest concern (PM_{10} and NO_x) have both short-term (24-hour and one-hour, respectively) ambient air quality standards and are principally emitted at low elevations (relative to the ground). Based upon the above and the discussions with the ICAPCD, use of the data from the single year was determined adequate.

Revisions to the Final EIS/EIR: None.

Response to Comment J005:006: See Response to General Comment 002.

26 February 1998

J006

Bureau of Land Management
1661 South 4th Street
El Centro, California 92243
Attention: Mr. Douglas Romoli

Reference: Draft Environmental Impact Statement/Draft Environmental Impact Report — Imperial Project — Comments on the Adequacy of the JED

Dear Mr. Romoli

001 We have reviewed the Draft JED for the Imperial Project. We find the document to be woefully inadequate in its treatment of alternatives and several topical areas, and not in compliance with the dictates of CEQA and the CEQA Guidelines. Specifically, we have noted the following deficiencies:

002 **Impacts Not Defined.** An EIR is required to identify and address the possible significant impacts of the project (see Calif. Code of Regulations, Section 15126(a)). The Imperial Project JED is fatally flawed as written in that it ignores numerous potentially significant impacts and/or puts off to some future time the identification of such impacts. For example:

- The JED is deficient in that it does not clearly identify impacts of *the Imperial Project on Native Amer*ican religious concerns. A specific statement of effect is required under CEQA to allow construction of appropriate mitigation measures and to allow (if feasible mitigation is not available) for the adoption of appropriate findings.

- The JED does not specifically address the potential for impacts on the recreational use of the subregion. This is a critical concern in that the fiscal value of recreational uses, over the long-term, may actually exceed the value of the mine operation.

- The noise analysis is conclusionary and does not allow the reader to conclude as to the level of impact that can actually be expected with the project.

003 **Biological Resources.** Several of the biological studies are over a year old and were prepared either at the wrong season or at a time immediately following drought years. Biological surveys over a year old are generally considered by the Fish and Wildlife Service (for example see various endangered species protocols) to be invalid after one year. Given the excellent rainfall pattern of the last several months, the biological surveys should all be updated to the current year.

004 **Mitigation of Impacts.** The mitigation measures outlined for the anticipated impacts of the project are generic and contemplate in many cases that, at some future unspecified time, the actual form and content of the mitigation measures will be defined. The majority of the mitigation measures are

keyed to some future time in the development of the project. This is a clear violation of CEQA. Both the Act and case law require specificity in mitigation measures and require that the public have an opportunity to review those mitigation measures as a part of the EIR. For example:

- *Sundstrom v. County of Mendocino* (1st Dist. 1988) 202 Cal. App 3d 296 (248 Cal.Rptr. 352) — The court of appeals faulted the county for assuming that various other agencies would be able to devise mitigation measures which would avoid potential significant impacts. Because there was no certainty that success could be achieved, in this regard the agency had no basis for finding that the project's impacts would be insignificant.

- *Oro Fino Gold Mining Corporation v. County of El Dorado* (3d Dist. 1990) 225 Cal. App. 3d 872-885 (274 Cal.Rptr. 720) — The court disapproved of mitigation measures requiring post-approval formulation of a reclamation plan, erosion control plan, dust plan, and fire plan, saying ". . . the CEQA process demands that mitigation measures timely be set forth, that environmental information be complete and relevant, and that environmental decisions be made in an accountable arena."

- *Gentry v. City of Murrieta* (4th Dist. 1995) 36 Cal. App. 4th 13589 (43 Cal. Rptr. 2d 170) — The court held that, in adopting a Negative Declaration the city improperly deferred the formulation of specific mitigation measures. The City had required the project applicant to obtain a Stephens' Kangaroo Rat report and to ". . .comply with any recommendations in the report." However, the court noted that since ". . . there was substantial evidence to support a fair argument that the Project, even as mitigated . . ., would have a significant impact on the Stephens' Kangaroo Rat," any proposed mitigation for this impact had to be made available for public review and could not be left to be formulated in the future (Gentry, supra, 36 Cal. App. 4th at 1397 (43 Cal. Rptr. 2d. 170)).

Absent specificity in the mitigation measures the approving officials cannot determine whether or not the identified impacts can be mitigated or whether a wholesale redesign of the project will be necessary. In addition, the public cannot determine the adequacy of the proposed mitigation and is denied any ability to provide input to the approval process. Absent specificity in the mitigation measures, the EIR is fatally flawed.

005 **Significant and Not Mitigable Impacts.** It cannot be determined from the EIR which impacts are not mitigable. If there are impacts which cannot be mitigated and thus are unavoidable, then CEQA requires the Lead Agency to adopt appropriate findings (see Calif. Code of Regulations, section 15091(a)). At present, the analysis of most of the topical sections is sufficiently flawed and the recommended mitigation measures are sufficiently vague that it cannot be determined whether or not overriding considerations will be required.

Bureau of Land Management
26 February 1998

006 **Additional Public Review Required**. CEQA Section 21092.1, Section 15088.5 of the CEQA Guidelines, and relevant case law clearly requires the EIR to be recirculated for an additional public review period when "significant new information" is added to an EIR. Clear-cut identification of the actual impacts to the various topical area of the JED, re-writing of the mitigation measures to provide the level of specificity required by the statutes, and completion of the required additional field work, all constitute "significant new information." The courts have been most clear, the public must be given a ". . . meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect . . ." Recirculation of the Subsequent EIR (once the necessary corrections have been made) for an additional public review period is clearly required.

007 **Alternatives**. There is no alternative that addresses the concept of retaining the property in its natural state for long-term recreational use. Long-term recreational use of the site may be more financially beneficial to the County of Imperial than will be the use of the property as a mine site. Especially given the marginal return implied at several points in the JED.

008 **Requirements to Bring the EIR to Legal Adequacy**. Additional field work, a comprehensive reassessment and re-writing of the mitigation measures, and re-circulation of the EIR for an additional public review period will be required to bring the document to legal adequacy.

009 I request that I be retained on the mailing list for the project. I would also like to request a copy of the Final JED for additional review. I look forward to reviewing the Agency's responses to comments and the legally required support of those comments by substantive evidence in the record.

Sincerely,

Royce B. Riggan, Jr., AICP
Principal
(PRT-195078)

RBR:et

[\misc-let.025]

RESPONSE TO COMMENT LETTER J006 RECEIVED FROM ROYCE B. RIGGAN JR., AICP, DATED FEBRUARY 26, 1998

Response to Comment J006:001: See Responses to Comments J006:004 and J007:015.

Response to Comment J006:002: See Responses to Comments I009:041, I013:326 and I015:008.

Response to Comment J006:003: (See Also Response to Comment I005:012.) There is no reason to believe that the fundamental wildlife species composition of the Project area has changed within the up-to-three-year period since the wildlife surveys were completed. There is no regulatory requirement or survey protocol which dictates the need for conducting new surveys, in part because there have been no changes in the federal or state lists of sensitive species that relate to species that occur or have habitat within the vicinity of the Project since completion of the surveys.

Revisions to the Final EIS/EIR: None.

Response to Comment J006:004: (The Following Response is Also Applicable to Comments J006:001, J006:005, J006:006, J006:008, J006:009 and J007:016.) The specific mitigation measures which are alleged to be inadequate are not identified in the comment, thus responses cannot be prepared except in a generic fashion. Response to General Comment 002 provides guidance as to the location in the Draft EIS/EIR of the discussions of the impacts and mitigation measures for the various disciplines addressed in the Draft EIS/EIR. Impacts that cannot be mitigated to acceptable levels are clearly identified in each technical section under the heading "Unavoidable Adverse Impacts and Level of Significance After Mitigation" and in Table S.1: Summary of Potential Environmental Effects and Mitigation Measures ("Level of Significance After Mitigation"). The mitigation measures recommended in the Draft EIS/EIR are consistent with the current practices for each environmental discipline area, and were designed to address the specific impacts associated with the Proposed Action. Mitigation Measures that may rely on some future information still provide sufficient specificity so that public review of these measures is not hindered. See also Response to Comment I005:012. As the information deemed missing is already available in the Draft EIS/EIR, no recirculation of the environmental document is necessary. The comment author will be retained on the Project mailing list.

Revisions to the Final EIS/EIR: None.

Response to Comment J006:005: See Response to Comment J006:004.

Response to Comment J006:006: See Response to Comment J006:004.

RESPONSE TO COMMENT LETTER J006 RECEIVED FROM ROYCE B. RIGGAN JR., AICP, DATED FEBRUARY 26, 1998

Response to Comment J006:007: The Imperial Project EIS/EIR is a project-specific EIS/EIR that evaluates the Proposed Action and alternatives to the Proposed Action that also provide for mining of the precious metal resources in the project area. Both NEPA and CEQA require that the respective federal and state impact assessment documents include a range of reasonable alternatives that could feasibly attain most of the basic project objectives and would avoid or substantially lessen any of the significant environmental impacts of the proposed project. An alternative "that addresses the concept of retaining the property in its natural state for long-term recreational use" would not achieve the basic project objectives and is, therefore, not an appropriate Project Alternative. The No Action Alternative would deny the "action" alternatives and allow the existing activities in the project area, including recreational use, to continue. However, dedication of the public land in the project area to long-term recreational use would require a separate evaluation and action by the BLM that is beyond the scope of the subject Imperial Project EIS/EIR.

Revisions to the Final EIS/EIR: None.

Response to Comment J006:008: See Response to Comment J006:004.

Response to Comment J006:009: See Response to Comment J006:004.

Bureau of Land Management
1661 South 4th Street
El Cento, CA 92234
Attn: Doug Romoli

J007

Glamis Imperial Mine Project
Comments on Revised DEIS/EIR

NOTICE and PUBLIC HEARINGS:

001 Both the notification and public hearing processes for this project were insufficient. As a U.S. citizen, taxpayer, and voter I am a member of a segment of the population that BLM has no excuse for not notifying. BLM does not own the land that it administers, it manages the care, maintenance, and use of the land for current and future members of the American public. Thus it has an obligation to solicit the opinion and advise of the public, and to inform the public of decisions regarding its [the BLM's] management of public lands. The great majority of the public are not informed of the BLM's actions anywhere, indeed I would not be surprised to find that some of them do not even know the BLM exists. This constitutes a grievous failure by the BLM to give sufficient public notification. They fail to notify those whom they have a clear obligation to serve (American citizens, particularly those who vote, pay taxes, and otherwise discharge their civic duties). While it might be an undue burden on the BLM to give complete and immediate notification of every decision to the entire U.S. population, it would not be an undue burden to make available, at the polls or included with tax forms, some sort of registration to receive free information regarding BLM decisions and policy. As it is now, whatever notification the BLM does provide is insufficient as they have a clear obligation to every American citizen who fulfills all of his or her civic duties.

I attended both of the public hearings on the content of the revised DEIS/EIR (Holtville, and San Deigo). Both of the meetings were held late on weekday nights. They were located in such a manner that most of the people most affected by and most concerned with the Imperial Project were required to drive between one half hour and four hours. These factors combined to make it difficult and impractical for members of the public, especially those with children

or jobs, to attend the public hearings. The duration of the meetings was such that most people were allowed to speak between one and three minutes to give their comments on the revised DEIS/EIR, an amount that I would consider inadequate given that the entire DEIS/EIR with technical appendices is over four inches thick and likely well over 2000 pages. The difficulty posed by the short times for giving comments was exacerbated by the fact that many of the people who attended the hearings only received copies of the DEIS/EIR two or three weeks before the meeting or did not receive any copies of it at all. That made the BLM's request for attendees to give meaningful comments on the entire document patently ridiculous. Furthermore it is my understanding that BLM officials conducting the hearings expressed the opinion that the public hearings were merely an opportunity for the public to vent. I did observe some "venting" of anger [some quite justifiable] at BLM's handling of the mine proposal and the DEIS/EIR. However, it was significantly outweighed by rational and well reasoned comments on both the project proposal and on the document. For BLM to dismiss public comments on its actions before even hearing them is both unprofessional and immoral. I would recommend holding another set of two to four public hearings, of at least six hours in length, on weekend days, and with at least one in the Yuma area. I would also recommend that the BLM seriously consider the facts and opinions expressed in such hearings and take them into account during their decision making process as that is the reason that they are legally required to hold public hearings.

In addition to claiming to dismiss out of hand public comments, the BLM declared in its DEIS/EIR that it endorses the unaltered plan of the mining company. This goes further in implying that the BLM has little or no regard for the opinions or wishes of the public as they knew that the project was very likely to be highly controversial.

BIOLOGICAL RESOURCE SURVEYS and MITIGATION MEASURES

002 The most glaring deficiency in the section on biological resources is the botanical survey of the mining site. The cover page of the section indicates that the survey was performed in May, whereas on the fourth page of the report it is revealed that it actually took place in the end of January. That means that the botanical survey took place in the middle of winter in a desert area

that was in a drought period that had extended for almost five years. The temperatures in the desert can be near or below freezing during the winter and are certainly cool enough to cause dormancy in plants that are adapted to growing in temperatures from 60 to 120 degrees F. This especially effects annuals as the only way to find them would be to sift through the soil and find and identify their seeds as they do not sprout without a rainfall and suitable temperatures. Combined with the drought, I doubt that one could easily find a worse time for looking for plants in that area. The point of the botanical survey was to if possible find ALL of the plant species that grow on the mine site so that it could be determined what sort of habitat the area is, and if any of the plant species there are rare, threatened, or endangered. The survey was conducted as if the point was to find as few plants as possible. This makes the validity of the survey's findings dubious if not totally worthless. In addition, the botanical expert who did the survey, although well endowed with degrees of higher learning, apparently lives and works in Colorado. The number and species of plants on a given surface area of land can vary radically within a distance of several yards due to the sensitivity of many plants to microclimes. The variation over a distance of over a hundred miles is even greater. This is relevant because no matter how much academic study one has in botany there is no equivalent to walking an area and studying it for several years to attain knowledge of the type and density of plants located there. A local expert in botany would be far more likely to have enough field experience in that area or a similar area to do an accurate survey. For example, a local expert would most likely know better than to do a survey during the time when the fewest plants are up. This is borne out by the fact that when I visited the mine site (Nov '97, Dec '97, Jan '98) I was able to identify plant species that are not listed in the DEIS/EIR as having been found during the survey. One of the species that I found was sacred Datura, a very distinctive and hard to miss member of the nightshade family that is easy to identify using any decent guide to the plants of the deserts of Southern California. I'm sure that a local botany expert would find far more errors than I did, as they would know exactly what to look for.

003 The reclamation plan for plant species is also woefully inadequate. Desert restoration is extremely difficult due to the harsh nature of the environment, and restoration attempts have a long

history of total failure. This translates in expense as it requires experts with years of experience and some fairly specialized equipment and techniques to be used over a period of many years even to reach the stated goal of restoring only 50% of the original plant cover on the site. The reclamation bond that mining company proposes does not provide the funds that would be needed to do an effective plant restoration to even the stated goal of half the number of plants that are currently growing on the site. It should also be noted that in the event of a failed reclamation attempt, natural recolonization of the site to current levels or even half of current levels could easily take several hundred years. The likelihood of a failed reclamation attempt is greatly increased by the fact that the open pit mining technique will substantially alter the ground and soil structure, and water flow properties for a period that would be geologic in time scale (tens of thousands to tens of millions of years or more). The fact that five ephemeral waterways running through the site would be diverted at least for the 20 year duration of the mining operation, if not longer, will have an impact on plant life down-gradient from the mining site.

004 The biological report on animals occurring on the mine site is only marginally better than the botanical survey. That it is better is due primarily to the fact that the list of species was achieved by putting down all of the species whose presence seemed plausible. This is good in that it acknowledges that animals are mobile, that many are nocturnal, that many tend to avoid humans, and that many animals are well camouflaged in their natural habitats, thus making a complete survey of all species nearly impossible. The drawback of this method is of course that it has no empirical data to back it up and that if the reference materials that are consulted omit species that are actually there, then the list is not very accurate. I observed several common insects and lizards that did not appear in the list in the DEIS/EIR. That is not of really great concern as the preparers of the list seemed to err on the side of including species, particularly rare, threatened, or endangered ones. However, they make assumptions about the occurrence and behavior of animals that I find suspect due to of their lack of on-site observation and because contradictory observations by myself and others. At the site I saw and heard bats within a few minutes of sunset. If a bat flew at top speed in a straight line and had set out several minutes before sunset it might reach the mine site from a roosting site four or more

miles away within a few minutes of sunset. It seems far more likely that the bats that I saw were roosting much closer to the site, perhaps even on the site. If there are roost site(s) on the project area it is very likely that mining would render the roost site(s) uninhabitable as bats are sensitive to disturbance, particularly noise. With trucks and blasting going on 24 hours a day it is quite possible that roost sites outside the boundary of the mine site could also be affected. In the draft document it states that mule deer only occur on the site when they are traveling from the mountains to the Colorado river and that the bighorn sheep that are known to live in the Picacho Peak Wilderness Area do not cross the mine site at all. Hunters in Imperial County report that the site is an area that deer frequently inhabit year round and use for fawning. There have also been reports of bighorn crossing the area en route to the Cargo Muchacho mountains. The bighorn sightings are not to my knowledge reliably confirmed and they are very rare. On the other hand there is little reason to doubt the information regarding deer population and behavior given by hunters. Both county and state Fish and Game offices rely on information from hunters to assess the population and movement of deer. In addition they made a scientific study of the accuracy and effectiveness of three methods of assessing deer populations in the desert. They tested aerial overflights, fieldwork and observations by trained biologists, and reports from hunters. They found that there was not a statistically significant difference in the data or in the accuracy of the data provided by any of the three sources. In addition hunters spent more total hours in the desert than Fish and Game biologists and pilots.

005 Mitigation measures have a heavy emphasis on the protection of the desert tortoise and seem to be adequate in that regard, although the question of the effect of increased traffic during the mine operation on the numbers of tortoises killed by traffic in the area wasn't addressed thoroughly. For keeping other wildlife out the DEIS/EIR proposes a six foot high chain link fence along Indian Pass road road and a four foot high three wire fence on the other three sides of the mining site. That is laughable as a precaution to exclude wildlife. The noise of the mining operation will do more to prevent most wildlife from approaching the mine site. Initially, I do not doubt that the noise from the operation will discourage wildlife, particularly birds and mammals, from entering the site. As soon as the animals in the area become acclimated to the noise, and start to

take interest in food and water that constant human occupation of the site is likely to make available, the fence will be of little use. The only animal that I can think of that a three wire fence as described in the DEIS/EIR would actually stop would be a human running at full speed with their eyes closed, and it would depend on who it was; some people would still make it over or through the fence. Basically any animal that couldn't walk through the fence between the wires could jump over it. It should be noted that coyotes can clear six foot fences and that determined deer have no trouble with jumping eight foot fences, as many gardeners and farmers trying to protect their chickens and their vegetables have found out. Eight foot barbed wire topped chain link fence all the way around the site would be more effective in keeping out large animals. Small animals would still be able to either crawl through the mesh or climb over the fence and through barbed wire coils. Of course keeping out anything that could fly would be hopeless. While incidental 'take' of wildlife will undoubtedly be phenomenally higher on the mine site and its access roads than in the surrounding desert, I am not concerned that this additional mortality will have a significant long term impact on healthy populations of common local animals. The habitat disruption could do significant damage to a much larger area than the mine site itself occupies. The diversion of washes will affect the amount and location of water resources downstream, resulting in displacement of plant species that may be food sources and changing the way in which erosion and sedimentation alter the physical landscape. The waste-rock piles and the open east pit will also radically change the physical nature of the site after the mining operation is over. The effects of a seemingly simple (although massive) change in topography will change properties such as: hours of sunlight and shade per day, drainage and absorption of water, wind currents, and temperature. This is very significant in the desert. I have seen hills and depressions where one side is almost totally barren and the other is covered with a very dense mat of green leafy vegetation due to those factors. The site as it currently is does not contain large changes in elevation but instead has a very slight slope with a hill near the middle that is less than 100 feet high, a strong contrast to a topography of a 600 to 800 foot deep crater among hills of rock over 200 high with moderate to steep slopes.

006 The mining company proposes that it should monitor itself for all of the reclamation and mitigation efforts. That poses a

tremendous conflict of interest. In addition the DEIS/EIR states that if Glamis Imperial does not mine the site for the full proposed 20 years it is not obligated to do any reclamation whatsoever. This would have a significant impact on the long term effect of the mining operation on the biological resources in the area.

CULTURAL and ARCHEOLOGICAL RESOURCES

007 The one area in which this draft of the EIS/EIR is significantly improved over the last one is the treatment of cultural and archeological resources. It has a survey of the site that is of an acceptable quality. It acknowledges the fact that the site is incredibly rich in artifacts and that they are irreplaceable. It also concedes that the damage to the traditional culture and religion of of the Quechan Indian tribe would be permanent and unmitigable. Given that it is likely that the area has been continuously inhabited by humans for ten thousand or more years and that it has cultural and spiritual significance for several tribes one would think that there would be a recommendation against locating a mine in the area. There is no such recommendation in the DEIS/EIR and the suggested mitigation measures, for the **unmitigable** damage mining would cause, consist of not building structures or mining on a
008 handful of sites and making a short video tape of the area. There was one error that is both incomprehensible and totally inexcusable; maps were included in the DEIS/EIR showing the locations of archeological interest and the locations of many artifacts. Anyone with any archeological experience should know better than to publish and distribute maps of archeological sites that are not occupied 24 hours a day during study or excavation. To do so is an open invitation for curiosity seekers, collectors, and artifact traders to loot the site. The fact that federal law prohibits removal of plants, animals, minerals, and other resources from federal lands without permission and also specifically prohibits the removal, destruction, or defacement of items or locations of archeological value is meaningless because enforcement at the project location is light
009 enough to be practically nonexistent. As far as I can see the BLM has to date given less consideration to the concerns of the Quechans than it should, and while the DEIS/EIR states that the BLM is obligated to consult with all of the native tribes that are affected by this project there is no evidence that the BLM has made any effort to contact the

other Yuman tribes (a language group of common ancestry that includes the Mojave and five other tribes in addition to the Quechan) or the tribes to both the east and west that used the trails crossing the project area to trade between the coast and the interior. The Yuman tribes had a north/south trail system to connect them, and the trail system also linked them to numerous spiritual sites. What
010 consultation has occurred has consisted largely of the BLM saying to the Quechan that they cannot do anything other than endorse the destruction of a holy area. This area has had documented use for at least 300 years and up until the mid nine-teen forties. It is apparently still used, and members of the Quechan tribe plan to use it in the future. The spritual value of the area is increased by its use as a sort of consecrated teaching area where the Quechans are started on the path of learning traditional spiritual beliefs. Without the use of that area for teaching younger generations the Quechans maintain that they will not be able to perpetuate their religion. The BLM has also asked the Quechan to fully explain their traditional beliefs and religion. This is incredibly insulting as it implies that the Quechans don't have a traditional religion that has any worth and that they must prove that it exits and that it is valuable. When the Quechan do attempt to explain their traditions the BLM does not seem to regard them as valid, valuable, or relevant to the project. The history of the U.S. government's treatment of natives is literally atrocious. It consists of a long list of atrocities against native tribes committed by the United States. After the military subjugation of native tribes those that survived the process were introduced to a long program of cultural genocide. There are still vestiges of that program in the bureaucracy of the U.S. government. The BLM's pushing of the mine on a site sacred to the Quechans could easily be considered a form of cultural genocide, which is considered a crime against humanity in international law, a point that has interesting ramifications given that the Quechans are technically a sovereign nation. Even if the legal issues are murky, shaky, nonexistent, or deliberately ignored, there is still a moral debt that the United States of America owes to all Native Americans, and as a federal agency that is supposed to care for the land as a trust for everyone, the BLM should honor and respect the views of the Quechans. The BLM owes even more respect because in addition to a special moral obligation there is the fact that the Quechan people managed the land successfully over a period that is much longer than the existence of

the BLM or the U.S. government, and as a result of having much more experience they may possibly know things about desert lands management that would be useful and enlightening for the BLM to study and learn.

ECONOMIC BENEFITS

011 I was astonished by the candor of the section of the DEIS/EIR regarding the projections of the distribution of the economic benefits of the proposed mine. The DEIS/EIS states that there will be no significant benefits to the local or state economies of Imperial County, Yuma, California, or Arizona. Glamis Imperial mining is a subsidiary of a subsidiary etc, of Glamis Gold, a company based in Vancouver, Canada. Glamis Imperial piously claims that it is not really a foreign company because its stock is traded on the New York Stock Exchange. I am not impressed, Ford, Coca-Cola, and Disney stocks are traded around the world but I've never been told that Ford is a Japanese company, or that that Coca-Cola is based in Singapore, or that the real Disney is in Hong Kong. The company claims that the cost of extracting one ounce of gold is $292 U.S. That is the current price of gold so if the gold price remains stable or drops, as it has been steadily declining for the past ten years, Glamis Imperial will make very little profit or lose money. If the company does a good job reclaiming the site after mining, something they claim to be expert at and take great pride in (although their other mines look similar to the craters generated by testing nuclear warheads to me and the surrounding areas tend to look blasted and diseased), it may well use up more money than it makes. This is a point that they acknowledge in their proposal when giving reasons for not backfilling the east pit in their favored plan. As for the quality of the ore they want to mine, they claim that it has 0.0016 ounces of gold per ton of ore material. Considering that they will have to remove three times the mass of ore in non-goldbearing rock to get at the ore, that is a yield of 0.0004 ounces per ton of rock moved. That means moving 2500 tons of rock to get at one ounce of gold. It seems more than slightly ridiculous when you consider the fact that there are placer deposits in streams that are rich enough so that you can actually see the gold dust or nuggets if you pan for gold. A hobbyist who pans only on weekends in good weather can earn back the cost of over $100 worth of equipment within a year or two

even after considering that most recreational gold hunters keep the bulk of their finds and that the price for raw gold dust and nuggets in the small amounts that hobbyists extract is much lower than that of large volumes of gold doré or bullion. There are many placer and lode deposits that are sufficiently concentrated to make physical mining of visible gold practical and profitable scattered across the U.S. and the rest of the world. Finally there is the consideration that the price of gold is artificially inflated. Gold is not intrinsically very valuable. In ancient times it was traded as equivalent to its weight in salt. When traded against silver coins (which were frequently debased with copper or lead) it was only rarely worth more than twenty times its weight in silver coinage that was acceptably pure and ten times would be closer to the standard.

During the industrial revolution its value soared as it became the collateral that insured experiments with paper money. If a paper currency was backed by the gold standard with sufficient reserves the paper currency was almost totally immune from a sudden crash in value. However, now paper money is considered the old fashioned standard and its value is linked to economic factors in the country of issue. Few currencies are still linked to gold reserves in any meaningful way. Electronic currency is now the preferred means of transferring and keeping large sums of money, divorcing gold from its old role as a backer of value in money even further. Banks and nations that still hold large reserves of gold are realizing that it no longer has significant bearing on the stability or value of paper or electronic currency. They are starting to see bullion as a collection of large yellowish and very heavy bricks that are expensive to keep stored under strong security while they generate no profits. The result is a growing trend in the minds of banks and treasury departments to give in to the temptation to simply dump gold on the market and get rid of it. The primary factor in preventing this from happening is the realization that any release of gold from reserves without a commensurate increase in demand (which does not currently exist nor look likely in the foreseeable future) will cause the price of gold to crash to what it is intrinsically worth in today's economy, probably less than $200 per ounce (my personal guess of its true worth is about $150 per ounce, maybe a bit lower) and as a result they would incur large losses. So they are likely to dispose of gold in a trickle which will continue the slow downward trend of its price over the past ten years. Gold is used primarily for jewelry and

specialty applications: high grade electrical contacts, semiconductors, musical instruments, gold leaf and paint, and other applications where a highly conductive, malleable, corrosion resistant part is needed enough to justify the cost of gold instead of a combination of cheaper metals. While fairly useful in those practical applications it is only truly irreplaceable in gold jewelry, after all, jewelry without gold in it can't be gold jewelry. If one were to set gold prices solely by relation of gold supply to demand in jewelry-making, its price might well drop below that of silver. This is because through the fervent pursuit of gold, a supply has been built up to the point where even with a total stop of all gold extraction the current reserve would last for over a century. The only thing other than price manipulation by bankers that keeps the value of gold up to its current level is a long tradition of believing that gold is very valuable. Eventually the realization that gold is not all that valuable will sink in among all of the sectors of the public and the price of gold will drop to a level commensurate with the utility of is uses and remain stable at that level barring rampant and rapid inflation, which is getting increasingly rarer in today's markets. One might also note that rapid inflation in Asia did not effectively bolster the price of gold and stop its decline, a very good indicator that gold is no longer linked strongly to the strength of currencies. It is obvious that even with optimistic predictions on the part of Glamis Imperial that the proposed mine would only be marginally profitable. If cyanide, truck fuel, or other toxic materials were spilled on site and/or Glamis Imperial goes bankrupt then the U.S. government will wind up paying to clean up the mess and the company is also likely to lose money. Economically the Imperial Project is rather nonsensical.

HYDROLOGY

012 I had an opportunity to look at the data and calculations in the hydrology section of the DEIS/EIR, and while I admit that I don't know what the columns of numbers mean, I was able to check the math used in calculating the results, as both the measurement data and the formula for for calculating results were listed. Math is math no matter what the numbers represent, and whoever did the calculations needs to go back to school and take math over, starting in first grade so that they don't miss the sections on how to add and

subtract. Whatever the numbers in the results sections mean they aren't very accurate. Furthermore, what little I do know about desert hydrology is that it is very complex and sensitive to changes in water loss from the ground (from wells) and to the amount of water absorbed through the surfaces. I also know that good hydrologists know better than to be surprised when their predictions and models turn out to have nothing whatsoever to do with real water tables. They realize that the inability to see through the ground limits their accuracy in assessing underground water flow.

RECLAMATION PLAN

013 The proposed project's reclamation plan consists of a minimal cosmetic retouch after mining is done. They plan to reduce the ugliness of the spent site almost, but not quite enough so that people will be able to see that the eyesore factor has been reduced ever so slightly. Once one has come to grips with the reclamation plan's plan to actually not do any real reclamation there are problems with implementation. The entire set of mitigation and reclamation measures is to be carried out by the project manager, the mining company employee whose first and primary responsibility is to wring as much profit as possible from the mine. Interestingly enough people whose job it is to obsess over profits tend to avoid doing anything to remedy environmental problems if the solutions cost money. There is substantial historical documentation of this tendency. It seems likely that the project will take every opportunity to cut corners or totally ignore environmental issues to save money, if only because people get fired for not generating profits, not for complete failure to enforce environmental standards. Imperial County has a large number of commercial concerns that other areas don't want because they produce more pollution than most people want to be around. Due to unemployment of over 30% the County government is under constant pressure to approve any sort of development that may bring jobs. The presence of 'unsavory and unpleasant' ventures may prevent other companies from coming to Imperial Valley if their workers, particularly those of the high-skill, high-pay class, refuse to relocate on the basis of quality of life issues. By "quality of life" I mean that the color of the air in Imperial Valley usually varies between that of a thin chicken broth and that of dark beef stew. It is unfortunate, but it is the way things are.

When an official in the Imperial County government is of the opinion that reclamation of other mines owned by Glamis Gold bring the results of "It looks like shit," I am not encouraged to believe that Glamis or its subsidiaries have a history of doing high quality reclamations on former mine sites. While the reclamation plan is merely a token that is not likely to be strongly enforced, Glamis Imperial will be able to evade doing any reclamation at all by transferring its assets to Glamis Gold Ltd. and then declaring bankruptcy. Naturally that leaves the U.S. taxpayers to foot the bill for cleaning up the mess. That's not how I would like my tax money spent. I would rather Glamis Gold dissolve Glamis Imperial, cancel the mine, and not make the mess in the first place.

EXPANSION

014 I was involved in research to determine what other mining claims Glamis Gold and Glamis Imperial hold in the Imperial project area. They hold hundreds of claims outside of the proposed mine site. Given that these claims were mostly registered between 1980 and 1983 and that there is a yearly fee of $100 for every claim held it seems likely that Glamis Gold and its various branches have invested at least several million dollars in maintaining claims there. It would be very odd if after playing out the proposed site they didn't want to expand and mine the rest of the adjacent claims. The DEIS/EIR makes no mention of the likelihood of an enormous expansion of the mine site after the mine is started.

CONFLICTS OF INTEREST and OTHER ETHICAL PROBLEMS

015 The DEIS/EIR is paid for by Glamis Imperial. This is good because it would be unfair to force the BLM and Imperial County to pay for the process. This is bad because it puts pressure on the consultants that make the document to portray the mine as a wonderful thing so that Glamis Imperial doesn't fire them and hire someone else to write a nicer report. The BLM is the body primarily responsible for insuring that the report is factual and not skewed by the pressure exerted on the preparers of the document by the project applicant (Glamis Imperial). In this duty the ECRA office has failed their duty miserably. If the preparers of the DEIS/EIR, most of whom have at least one Ph.D., were required to get their degrees

recertified based solely on their work in the DEIS/EIR, most of them would be starting over as freshmen in high school or college. The quality of the report is such that I seriously doubt that any of the teachers or professors that I have had would give any section other than that on Cultural/Archeological issues a grade higher than a D. I do not know how or why the BLM failed to notice this, even considering the size of the document and the fact that their staff have many other duties to attend to. I think that it is a grave breach of the public trust on the part of BLM, even more so in light of their disregard for public concern and comments pointing out the serious deficiencies of the DEIS/EIR document and the handling of the mine permitting process in general.

016 It is my recommendation that the BLM do the following: recall the DEIS/EIR and not reissue another revised version until it adequately addresses all of the issues; extend the comment period deadline until at least March 26, 1998; schedule at least four more public hearings on the DEIS/EIR of at least six hours of length each, with at least one being held in the Yuma area; and deny the mining claim as null and void on the grounds that in a validity exam using the comparative values test, the gold body there is less valuable than the cultural, archeological, aesthetic, and biological resources currently found on the site.

Sincerely,

Eric Schori

Eric Schori
RFD 1 Box 235
Cameron, WI 54822

RESPONSE TO COMMENT LETTER J007 RECEIVED FROM ERIC SCHORI, NO DATE

Response to Comment J007:001: (The Following Response is Also Applicable to Comment J012:006.) Section 7 of the Draft EIS/EIR describes the opportunities that the public was provided to be involved with the environmental review and analysis process of the Imperial Project Draft EIS/EIR since March 1995; the process described in Section 7 complies with the public involvement requirement of NEPA (40 CFR 1506.6) and the CEQA Guidelines (14 CCR 15201 and 15202). After two drafts of the EIS, two prolonged public comment periods, and prolonged and extensively detailed consultation with the Advisory Council on Historic Preservation, the public has been provided adequate information about the project and opportunity to comment on it.

The method of gathering public comments is to both disclose the proposed actions and to identify and highlight vital issues and concerns for the interdisciplinary analysis of the project. The interdisciplinary analysis used by the BLM and the County of Imperial management team and the deciding officials is not a vote counting process. The ultimate goal of seeking and analyzing public comments is to make a better-informed decision.

Revisions to the Final EIS/EIR: None.

Response to Comment J007:002: See Response to Comment I005:012.

Response to Comment J007:003: See Responses to Comments E001:004, E002:017 and I002:010.

Response to Comment J007:004: (See Also Responses to Comments F002:004 and J002:001.) As stated in Section 4.1.5.3.4. (page 4-64) of the Draft EIS/EIR, "No bighorn sheep were observed within the Project area during the biological survey, and the Project area is not within established bighorn habitat. Natural dispersal corridors, between Peter Kane Mountain to the north and the Cargo Muchacho Mountains to the south, lie several miles to the east of the Project mine and process area, and these routes would not be directly affected by the Project activities. Although noise from Project operations, especially from blasting, may be discernable in these areas, the effect on bighorn sheep would be below the level of significance. The Project facilities may impact movement of bighorn sheep rams between mountain ranges; however, this direct route is not considered a substantial movement corridor and the impact of the Project on desert bighorn sheep movement would be below the level of significance."

Revision to the Final EIS/EIR: None.

Response to Comment J007:005: See Responses to Comments A001:008, I008:013, I013:108 and I013:291.

RESPONSE TO COMMENT LETTER J007 RECEIVED FROM ERIC SCHORI, NO DATE

Response to Comment J007:006: See Responses to Comments I002:010 and I013:163.

Response to Comment J007:007: See Response to Comment I013:326.

Response to Comment J007:008: See Response to Comment I013:326.

Response to Comment J007:009: See Response to Comment I013:326.

Response to Comment J007:010: See Response to Comment I013:326.

Response to Comment J007:011: Comment noted.

Revision to the Final EIS/EIR: None.

Response to Comment J007:012: See Response to General Comment 002.

Response to Comment J007:013: See Responses to Comments I002:010 and I013:163.

Response to Comment J007:014: See Response to Comment I012:042.

Response to Comment J007:015: (The Following Response is Also Applicable to Comments J006:001, J012:004, J029:003, M04:001 and M004:004.) Comment noted.

Revisions to the Final EIS/EIR: None.

Response to Comment J007:016: (See Also Responses to Comments I010:006, I015:007, and J006:004.) Comment noted. The comment period deadline was extended from January 27, 1998 to April 13, 1998.

Revision to the Final EIS/EIR: None.

Mr. Doug Romoli
Bureau of Land Management
El Centro Resource Area
1661 South 4th Street
El Centro, CA 92243

J008

April 3, 1998

Dear Mr. Romoli:

Thank you for providing the opportunity to review and comment upon the Draft EIS/EIR for the Imperial Project. The following comments are offered to clarify or provide more complete information in the Final EIS/EIR:

001 Page 3-105 of the Draft EIS/EIR contains a statement that the Indian Pass recreation corridor "is probably the most heavily used dispersed recreation area east of the intensely used Imperial Sand Dunes Recreation Area". It seems more likely that Pilot Knob and other areas along the Colorado River are more heavily used than the Indian Pass area. Since most of the United States is "east of the Imperial Sand Dunes Recreation Area", there are many other areas which are more heavily used for recreation than the Indian Pass Corridor. To avoid confusion and misrepresentation to readers, please revise this misstatement in the FEIS/EIR.

002 Section 3.3.1.4. of the Draft EIS/EIR contains a lengthy description of the "waters of the United States" in and around the project area. To avoid confusion, the description of the "affected environment" should be strengthened in the first paragraph of this section to make it absolutely clear to the reader that there are no permanent surface waters in the project area, and that storm runoff flows are rare and of brief duration.

003 The DEIS/EIR describes the physical location of the Indian Pass Wilderness Area and Picacho Wilderness Area. However, Section 4.1.7 does not make it clear to the reader that these wilderness areas are isolated from the Imperial Project site by mountainous terrain. Based upon photographs displayed by some attendees during your public hearings for this project, it is evident that many people may be confused that the project site is within the Indian Pass Wilderness Area, rather than on the desert floor and foothills west of the area. Strengthening the language in the FEIS/EIR to describe the immediate surroundings of the Imperial Project would help to eliminate this confusion.

004 Section 3.6 of the Draft EIS/EIR deals with cultural resources in the vicinity of the Imperial Project and with the concerns expressed by some Quechan about the religious significance of the area. Please clarify within Section 3.6 that the Imperial Project is not within the boundaries of the Fort Yuma Indian Reservation. Without this clarification, the reader is led to believe that the project is sited upon lands controlled by the Quechan tribe rather than 15 miles distant from the reservation boundary.

005 Section 5.3.4 of the Draft EIS/EIR appears to be in error because it analyzes cumulative cultural impacts for projects up to 100 miles distant from the Fort Yuma Indian Reservation but does not analyze projects much nearer to or within lands controlled by the Quechan tribe. The historical settlement for Quechan is in the Fort Yuma Indian Reservation area, and it stands to reason that important cultural impacts would also occur in this area. The reader of the FEIS/EIR should be informed that the Quechan have supported development activities within the reservation boundaries, in areas known to have been the location of major Quechan settlements in the past. Casinos, agricultural development, and other projects on Quechan reservation lands should also be included in the FEIS/EIR as part of the affected environment (Section 3.6) and cumulative impacts (Section 5.3.4).

006 Please include the attached Exhibit "A" in the Final EIS/EIR as an appropriate tool for visually depicting the cumulative significance of the Imperial Project. By superimposing the outline of the Imperial Project on a map that shows the prehistoric trails in the area, the reader of the Final EIS/EIR will be able to develop a more accurate sense of the proportion of the Imperial Project as compared with this very large network of trails. The text of the Final EIS/EIR should also be modified so that the reader can easily understand that this network of trails is known to extend well beyond the limits of the map area shown in Exhibit "A".

007 In addition, because anti-mining sentiments expressed by some Quechan tribal members have become part of the record for the Imperial Project, the public should also be informed in the Final EIS/EIR that the Quechan tribe itself contracted for a 1992 gold mining exploration drilling program on the Quechan reservation, very close to the intersection points for a major prehistoric trail network as shown on the attached Exhibit "A". Photographs of these abandoned drill sites are attached for your reference. The attempts by the Quechan tribe to develop a gold mining project in a setting similar to the Imperial Project should be given consideration while evaluating the claims that the Imperial Project would have "devastating" effects on the Quechan cultural heritage (Page 4-83).

008 Page 4-107 of the DEIS/EIR concludes that the Imperial Project will create the permanent loss of environmental education activities currently conducted in the vicinity of the Project mine and process area. This section should be expanded to also include details of the increased environmental educational activities which will be created by the Imperial Project. For example, in keeping with the contribution from other Imperial County gold mining operations, the Imperial Project will host school tours and geological tours and provide classroom presentations. These tours and presentations will increase educational opportunities for children and adults. In addition, the extensive cultural studies undertaken as a result of the Proposed Action have already added significantly to the knowledge of cultural history in the area, and further environmental education opportunities may be created by the collection, recording and/or curation of artifacts in the Imperial Project area. Lastly, mining operations are an important part of our history,

and mining districts are often visited by people who are seeking an educational and recreational opportunity. Please address the enhanced environmental education opportunities to be created by the Imperial Project in the final EIS/EIR.

009 Page 4-75 of the DEIS/EIR contains a mitigation measure requiring that some tortoises be equipped with radio transmitters when they are relocated, so that data can be collected to assess the effect of relocation. This mitigation measure also requires that tortoises from outside of the project should be similarly equipped with transmitters. As a result, animals which would otherwise have been unaffected by the project will be captured and disturbed. Because there are so few tortoises in the area, scientifically accurate statistical sampling of tortoise population using radio transmitters will not be possible. Therefore, the addition of transmitters to resident and non-resident tortoises may be unnecessary harassment that has no biological scientific value. There has been abundant experience with tortoise relocation in other areas, and BLM should rely upon this existing relocation protocol for the Imperial Project. Please consider deleting this mitigation measure in the Final EIS/EIR.

Thank you again for providing the opportunity to comment on the Draft EIS/EIR for the Imperial Project. Good luck with the preparation of the Final EIS/EIR.

Sincerely,

Tim Haldane

Tim Haldane
849 W. 36th Place
Yuma, AZ

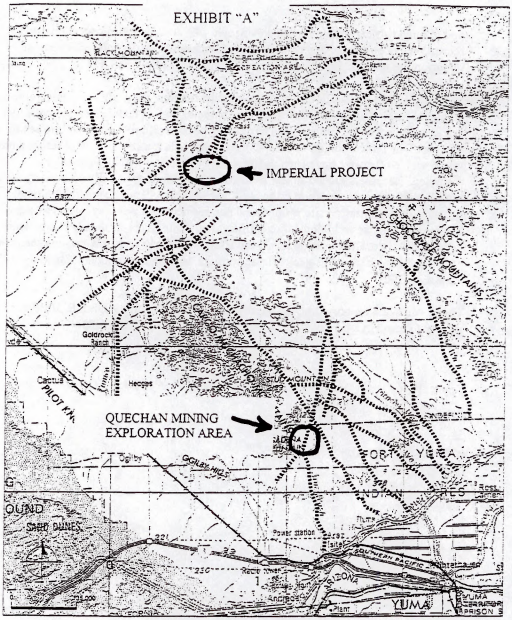


Figure 3-13. Previously Recorded Prehistoric Trails

Based on Archeological Survey Maps, IVC Museum

UNRECLAIMED GOLD MINE EXPLORATION DRILL SITES
FORT YUMA INDIAN RESERVATION

RESPONSE TO COMMENT LETTER J008 RECEIVED FROM TIM HALDANE, DATED APRIL 3, 1998

Response to Comment J008:001: Comment noted.

Revisions to the Final EIS/EIR: Page 3-105, last sentence of the first paragraph of the Draft EIS/EIR has been revised as follows:

"Although the BLM does not have quantifiable use numbers for the Indian Pass recreation corridor, it is ~~probably~~ among the most heavily used dispersed recreation areas in California east of the intensely used Imperial Sand Dunes Recreation Area."

Response to Comment J008:002: See Response to Comment E001:005.

Response to Comment J008:003: Comment noted. The locations of the two wilderness areas are shown on multiple figures in the Affected Environment chapter of the Draft EIS/EIR (e.g., pages 3-46, 3-79 and 3-98). The Final EIS/EIR will be amended to clarify the location of the wilderness areas with respect to the Project mine and process area in the text of the document.

Revisions to the Final EIS/EIR: Page 3-103, last paragraph, third sentence of the Draft EIS/EIR has been revised as follows:

"Two (2) Wilderness Study Areas (WSAs) ~~in the vicinity of the Project area~~, Picacho Peak (CDCA 355A) and Indian Pass (CDCA 355) located approximately one-half (½) and one and one-half (1½) miles north of the Project mine and process area, respectively, were designated as wilderness areas (USDI 1995) (see Figure 3.14)."

Page 4-44, fifth paragraph, first sentence of the Draft EIS/EIR has been revised as follows:

"Project lighting used during nighttime operations at the administrative offices, shop area, lime silo, heap leach processing facility; portable light plants used at the active pits, waste rock stockpiles and heap leach; and head lights from mobile vehicles would produce "sky glow" and/or direct light which would be visible to some viewers, such as campers, hikers, and other nighttime dispersed recreation users in the vicinity of the Project mine and process area, including the ~~adjacent~~ wilderness areas located about one-half (½) mile (Picacho Peak) and one and one-half (1½) miles (Indian Pass) north of Project mine and process area, but should not be visible to developed recreation areas, such as Glamis or Gold Rock Ranch, because of distance and blocked line-of-sight."

RESPONSE TO COMMENT LETTER J008 RECEIVED FROM TIM HALDANE, DATED APRIL 3, 1998

Response to Comment J008:004: Section 3.6.2.1. (page 3-83) of the Draft EIS/EIR has been revised to include the suggested information.

Revisions to the Final EIS/EIR: Page 3-83, last paragraph, first sentence has been revised as follows:

> "The area in and around the Project mine and process area, located approximately 16 miles distant from the closest point of the Fort Yuma Indian Reservation (see Figure 1.2), was heavily used by Native Americans for religious observances . . . ."

Response to Comment J008:005: (The Following Response is Also Applicable to Comments J008:006, J008:007, J024:002, J024:003.) (See Also Response to Comment I012:039.) Comment noted. However, the cultural resources or context found at one location, such as the Project area, may not be duplicated in equal quantity or quality at other locations, such as at the Quechan Tribe gold mining project site. The effects of the Proposed Action on Quechan cultural heritage may not be reduced by the Quechan tribe developing a gold mining project on the Quechan reservation.

Revisions to the Final EIS/EIR: None.

Response to Comment J008:006: See Response to Comment J008:005.

Response to Comment J008:007: See Response to Comment J008:005.

Response to Comment J008:008: See Response to Comment I013:413.

Response to Comment J008:009: See Responses to Comments I006:005 and J014:004.

Melanie Schori
College of the Atlantic
105 Eden Street
Bar Harbor, ME 04609

J009

April 12, 1998

Bureau of Land Management
1661 South 4th Street
El Centro, CA 92243
Attn: Doug Romoli

Dear BLM,

001 I am writing to express my opposition to the Glamis Imperial Project, which would create an open-pit gold mine on Ogilby Road in Indian Pass. I had occasion to visit the site on March 20th, March 25th, and March 26th, 1998. Quite frankly, Glamis could not have picked a more picturesque site to destroy short of moving into a national park. I have spent a great deal of time in the deserts of Southern California, and Indian Pass is one of the most peaceful places I have been. While I was there, I listened for sounds of traffic or airplanes, but heard none. There are no visible signs of human habitation, excluding the multitude of stakes left from surveys. It is quite unusual to find a place like Indian Pass, where one can pass an entire day without visible or auditory reminders of what humans have done to the earth. All I heard while at Indian Pass was the wind, various birds, and my own voice and footsteps. I could see no buildings, no power lines; even the road looks like a wash from a short distance. I could not imagine the place filled with earth-moving equipment, many vehicles, power lines, and a cacophony of engine noise, drilling equipment, and shouting voices. I also was unable to believe that the place where I was standing would be a pit more than 500 feet deep, or a slag heap more than 300 feet high. And why should I? My feet were planted on solid desert pavement, birds were singing, and there were trees, shrubs, and flowers all around me, as well as a panoramic view of the mountains. How can someone stand in the same spot and visualize a gaping hole? I suspect that only avarice and the desire to dominate could cause someone to favor the prospect of a pit mine.

002 I would like to know who is to benefit from the Imperial Project. The American public certainly will not benefit from having their land used for private profit. The United States government will not earn millions by selling the land to Glamis, which, I believe, is

based in Canada. I know the United States believes that it is perfectly acceptable to strip other countries of their natural and cultural resources; does the government now see fit to let the same happen here? I also understand that Glamis is a "paper" company, which suggests that its owners use it as a façade. If Glamis is not a legitimate company with offices and employees in the United States, then what assurances does BLM or indeed the public have that Glamis is going to act in a responsible manner? If the Imperial Project is approved and proceeds, Glamis will have control over mining procedures, which have the potential to contaminate ground water, kill countless plants and animals, and endanger the lives of the people who do the actual mining. Glamis would not be the first to use substandard materials, pay for shoddy workmanship, or disregard the approved proposal and use a cheaper, illegal one. I have no explicit reason to believe that this would be the case, but as it is increasingly harder to find companies and agencies that are honest and responsible, there is little chance that Glamis is in that shrinking group. I can, however, cite some examples for my belief that Glamis' Imperial Project is bad news.

003 I read large portions of the Draft EIS/EIR and the Appendices B-O in the accompanying volume. I was not impressed. The documents were full of typos, ambiguous statements, discrepancies, and redundancy. Appendix F, the plant survey, contains a list of 114 plants, but the authors of the report wrote that they found 112 plants. Which two plants that they put on their list did they not find? In Appendix K, the biological survey, there are several plants listed that do not appear on the plant survey list. If the biologists who conducted the plant survey did not find these plants, then who did? Why did Glamis employ biologists from Colorado? The flora of Southern California is different from that of Colorado, and a plant survey should be done a local botanist, who would be able to recognize dormant plants much better than someone who does not live in the area. Why did the biologists who did the plant survey do it in June? It gets over 100 degrees Fahrenheit well before June, and perennial plants that can drop their leaves have done so by then. By June, there is no trace of many annuals and herbaceous perennials, especially ones that bloom after the fall rains. The desert is not like Colorado or New England; the majority of plants bloom from October-November and from February-April. Fall plants do not bloom in spring, nor spring ones in fall, and neither are present in June. Only a few hardy plants manage to bloom during the summer months. Bloom time is exceedingly important for properly identifying plants, because many shrubs only produce leaves when they bloom, and

ephemeral annuals appear only to bloom. Flower structure and leaf appearance are the determining factors for keying out plants in botanical manuals. It is almost never possible to make a valid identification of a plant based on a withered, sun-bleached husk of a plant, yet this seems to be exactly what those biologists did, and I have to question the accuracy of their report. They failed to find *Datura discolor*, which is one of the few plants that can be identified by its persistent stems and seed capsules, and they did not find *Brandegea bigelovii*, which was practically smothering dozens of trees on the mine site. I imagine that they could not identify the few stringy remains that were left by June.

The biologists mention doing several transects to survey plants, but they give no indication of the size or specific locations of those transects. In their report, they give the size of the site as close to 1,700 acres, and there is no way they could possibly survey even a tenth of that in two days. On a tract of land that large, it is very easy to never see some species, especially if they are small and inconspicuous. I did a plant survey of my own during my visits to Indian Pass, and there were four species of cacti on the plant survey list that I never encountered. All of them are fairly large, distinctive cacti, but they obviously only grow in a few select areas, areas that I did not survey. Also on that plant survey list were three distinctive spring wild flowers: *Amsnickia tesselata*, *Hesperocallis undulata*, and *Salvia columbariae*. I did not see any of them, though they were blooming in Anza-Borrego and Joshua Tree at the same time. These wild flowers usually occur in patches, and are completely gone before June, so I have my doubts as to whether they actually grow at the mine site. The biologists who wrote the plant survey report mentioned that the previous few years had had good rainfall, and vegetation was at its peak. However, deserts do not work in that way. Several years of "good" rainfall does not mean that the number of plants appearing in the following years will increase. It takes more than a few years of "good" rainfall to grow new bushes in the desert, and just because there is rain does not mean that plants will come up and bloom. I had the good luck to go to California during this El Niño year, and I heard many people say that they were seeing plants that they had only ever seen before in books. The most spectacular desert floral displays seem to occur the year a drought ends or when El Niño dumps a lot of rain of the desert. June of 1995 does not fall into either category, and from the photographs I saw in the Draft EIS/EIR, I would not say that vegetation density was nearly as high as it was during March of this year.

During my plant survey, I identified a total of 79 plants in eight hour's time, though there were more than 79 species in bloom at the time of my survey. I found 13 species that the Colorado biologists did not find, two of which Munz's A Flora of Southern California lists as rare. I do not have a list of plants considered rare by the California Native Plant Society or the Fish and Wildlife Service, so I do no know if these plants are considered extinct or not likely to grow in the vicinity of Indian Pass. One Appendix listed rare plants that could possibly grow at Indian Pass, and while the biologists stated that they found no evidence that the plants occurred within the mine site, they also found no evidence to suggest that the plants could and did not occur in the mine site. Since they did not cover every square foot of the mine site, they cannot state with any degree of certainty that there are no rare plants on the mine site. At one point in the Draft EIS/EIR it was stated that there were estimated to be 500 plant species on the site. How can Glamis attempt to judge plant diversity and density if its field biologists only attempted to identify one-fifth of the plants on the site? No survey work was done during the fall or spring wild flower blooming periods, reflecting a paltry and misleading effort on the part of the biologists who did the survey. I have no doubt that Glamis purposely employed out-of-state people who were not botanists and sent them to do a survey during one of the least productive months of the year. A proper plant survey needs to be done by a Southern California botanist on a year-long basis before any plant survey can be considered valid.

004 Two other points I would like to make concern the archeological background of Indian Pass and the desert tortoise. The desert tortoise is an endangered species, and Indian Pass has desert tortoises; I saw one on a lava field. According to the Endangered Species Act, it is illegal to harm, disturb, molest, or threaten an endangered species. I cannot imagine how digging an open pit where that tortoise was would not harm or disturb it. If the tortoises are moved to another place, they will be stressed by the moving, exposed to disease by being handled, and forced to compete with other tortoises in the new place.

005 As I walked around the mine site, I saw numerous artifacts—a few cairns, but mostly chipped rocks and rock flakes. These rocks were scattered all over the ground, and were obviously used and chipped by humans. These tools, or discarded fragments of tools, were made of rock quite different from the surrounding rocks on the ground. It is quite clear that they are Native American artifacts, as are the sometimes large chunks of blue rock that are scattered

around. I have never been to a place where ancient tools were lying around, inviting discovery and providing a connection to the past. I cannot believe that anyone with an interest in archeology would want this site to be lost to the ravages of open-pit mining.

006 A copy of my plant survey will be sent to the Museum of Natural History at Balboa Park in San Diego, along with photographs documenting the occurrence of these plants. If BLM or Glamis is interested in knowing what rare plants I found, they will have to inquire at the Museum. It should not take a person from Maine to do a plant survey in California for a negligent mining company. If I can travel to California as a freshman in college, without having taken any plant taxonomy courses, and identify 79 plants using Munz's A Flora of Southern California, just think what a trained botanist with more time could do. I would be ashamed to be one of the biologists from Colorado; what they did is not professional in any way.

Thank you for taking the time to read my comment letter, and I expect a copy of the revised EIS/EIR report to be sent to my home address:

Melanie Schori
RFD 1 Box 235
Canaan, NH 03741-9746

Sincerely,

Melanie Schori

RESPONSE TO COMMENT LETTER J009 RECEIVED FROM MELANIE SCHORI, DATED APRIL 12, 1998

Response to Comment J009:001: See Responses to General Comments 001 and 002.

Response to Comment J009:002: (The Following Response is Also Applicable to Comment J017:001.) (See Also Response to General Comment 002 and Comment I002:010.) Section 4.1.10.2. (pages 4-110 and 4-111) of the Draft EIS/EIR provided estimates of the expenditures and tax revenues from the Project; however, those identified would accrue at the local and state levels, none (other than income taxes) were specified to accrue to the federal government. The Response to Comment I002:010 discusses financial costs, assurances, and liabilities at length. It, too, finds that there is little economic benefit to the federal government from the Project.

Revisions to the Final EIS/EIR: None.

Response to Comment J009:003: (See Also Response to Comment I005:012.) A comment asserts that "at one point in the Draft EIS/EIR it was stated that there were estimated to be 500 plant species on the site" is not correct. The actual statement on page 3-57 of the Draft EIS/EIR is that "A total of 285 individual plants were observed, and the actual number [of individual fairy duster plants] present within the Project mine and process area probably exceeds 500 (Rado 1997)." As stated earlier in Section 3.5.5.2 of the Draft EIS/EIR, a total of 116 plant taxa were identified in the Project area during the site surveys and listed in Appendix B of Appendix H of the Draft EIS/EIR. A listing of all of the common plant species that occur, or could occur, in the Project area is not required to evaluate the potential significance of the effects of the Project on vegetation. However, these common species are discussed/included in the revegetation standards for the proposed reclamation plan.

Revisions to Final EIS/EIR: None.

Response to Comment J009:004: See Responses to Comments I006:005 and J014:004.

Response to Comment J009:005: See Response to General Comment 002.

Response to Comment J009:006: See Response to Comment I005:012.

Mr. Doug Romoli
Bureau of Land Management
El Centro Resource Area
1661 South 4th St.
El Centro, CA 92243

J010

April 13, 1998

Dear Mr. Romoli:

001 Thank you for providing me the opportunity to comment on the Draft EIS/EIR for the Imperial Project. Certainly a great deal of effort went into providing a comprehensive document covering the environmental consequences of this project. You and the proponent should be proud of your effort on this project. I do however, have a few questions I would like placed into the public record.

002 The document does a terrible job of showing that the area proposed for this mine is perfectly situated for mining. It is located very close to three (3) operating mines. This means the area already understands the impacts and consequences of mining. It also means that the area has high potential for minerals, and should be protected for the mineral potential in the area. You have already protected a great deal of wilderness, what about protecting some resources for growing the wealth of our country.

003 One of the mitigation measures requires filling any pit lake that may occur at the end of mining. What is wrong with a pit lake? It seems the proponent is being required to put wildlife guzzlers in the area to provide water for the deer. Why not leave a pit lake, if it does occur, for the same purpose? While the document goes a long way to show that the water quality is good, even though there is little potential for a pit lake to form, it would be a real shame to cover this resource up for no good reason.

004 On page 2-49, section 2.1.12, the document says "Glamis Imperial has proposed ... Purchase of off-site tortoise mitigation land within designated critical habitat at an area ratio of 1:1 for a total of approximately 1,631 acres." The document goes on to say on page 4-55, that the property is described as "unclassified by the BLM with respect to desert tortoise", and that as a result of the tortoise surveys of the area, it "would be considered Category III tortoise habitat". I think the document does a disservice to Glamis Imperial in consideration of the fulfillment of the goals of the Desert Tortoise Recovery Plan. Surely, trading land that is only marginal tortoise habitat (only classified because the inventory

found a few), for critical habitat will help insure the survival of the species. I think the document should better explain that this "trade" of habitat lands is a beneficial result of the Proposed Action.

005 On page 4-75, under mitigation measure 4.1.5-40, it discusses placing radio transmitters on 10 tortoises from within the mining area and 10 tortoises outside the mine area. This seems ludicrous when you consider the low grade habitat in the area. The BLM only classified the land as Class III because the project found a few tortoises. I can only imagine the difficulty finding 10 tortoises off site in an area where the population is so small. On top of that, you are requiring a three (3) year study of the animals. Why? This study will not provide any science that will help the population survive. It seems this is only designed to cost the proponent money while inflating some biologists ego. I recommend you take a hard look at the benefits of such an ill designed program, and then give the proponent a break and dismiss this as unnecessary.

006 I was pleased to read the Reclamation Plan that relates experience, and success, at the nearby Picacho Mine to the proposed reclamation of the Imperial Project site. I find it quite comforting to know that the proposed reclamation can be supported with data from a similar climate, terrain, and soil type. Clearly, this will make the job of the decision makers much easier.

Even though the document discusses the relationship to Picacho's successful reclamation, it does not describe the fact that the final product of the reclamation, under normal climate conditions, will be a landscape that has higher cover and diversity as described in the 1995 monitoring results. This is significant since one of the concerns in the area is wildlife habitat. It would appear that an increase in density will provide greater carrying capacity for wildlife. This is not well described in the document. Additionally, a greater diversity will provide a greater variety of cover for wildlife, and a larger gene pool for the scattered plants in the area. These items are also poorly covered in the document.

007 On page 3-53, the Fairy duster (Calliandra eriophylla) is listed as CNPS-2/SP, meaning while there may not be a large number in California, they exist quite plentifully elsewhere. Additionally, on page 2-33, the plant is described as "locally common". Why, knowing that the plant is not only common in the area, but not uncommon in other areas, is it specifically called out to be added to the plant list?

008 On page 3-54, the Winged cryptantha (Cryptantha holoptera) is described as "found in ephemeral stream channels and washes throughout the Colorado Desert, in the eastern Mojave Desert of California and Nevada,

and in the Sonoran Desert of Arizona." Page 4-50, under mitigation measure 4.1.5.2.3 states that "CNPS List 4 status indicates that these plants are not "rare" but are sufficiently uncommon that their status should be monitored." No where in the description of List 4 does it say that specific seeds should be collected and added to the revegetation mix. I believe the method of collecting seeds described in the plan will provided the greatest opportunity for revegetation of local species. Requiring specific seeds be collected from a single, common plant, is not called for, and this requirement should be explained in the text.

009 On page 2-6, table 2.1 shows Project Mine and Process Area Total Disturbed acres at 1,302 and Total Reclaimed acres at 1,269, while on page 10 of the Reclamation Plan, the Total Reclaimed acres is 1,302. The Reclamation Plan would indicate that Glamis intends to reclaim on or off the property, 100% of the acres disturbed while Section 2 would have them not reclaiming as much. I can only imagine this is a typo that was not intended by the BLM in the body of the text.

010 I would like to congratulate Glamis for their proposal to rehabilitate the Ironwood "forest" in the two (2) washes near the mine. Having traveled in those washes, it will be a significant event to once again have Ironwoods scattered in the density they once had.

011 The economic impacts of a project this size on Imperial County are enormous. The section covering this in the draft is inadequate. Considering only the jobs created and taxes paid, and doing it poorly in the text, does a disservice to Glamis Imperial. As we all know, the infusion of money and jobs into an area has a multiplying affect. This creates other service jobs in the area, allowing people to own homes and have families where they wish to live. This should be discussed in more detail for the Proposed Action, and as a loss of opportunity under the No Action Alternative.

012 My last comment is to approve this mine for operation. Our country needs to develop its natural resources, and this company has shown stewardship at its Picacho Mine for nearly 20 years. Where else can you find such a positive track record of 'doing the right thing'.

Sincerely,

Linda Brooks

RESPONSE TO COMMENT LETTER J010 RECEIVED FROM LINDA L. BROOKS, DATED APRIL 13, 1998

Response to Comment J010:001: See Response to General Comment 001.

Response to Comment J010:002: See Response to General Comment 001.

Response to Comment J010:003: See Response to Comment E001:012.

Response to Comment J010:004: See Response to Comment F002:006.

Response to Comment J010:005: See Responses to Comments I006:005 and J014:004.

Response to Comment J010:006: Notwithstanding the reported successes at the Picacho Mine, a goal of site reclamation for the proposed Imperial Project is to reclaim the Project mine and process area and other disturbed surfaces "to a stable, functioning landscape unit/ecosystem to allow similar, but not identical land uses, including wildlife habitat and recreation . . ." (Draft EIS/EIR, page 2-34). The Reclamation Plan discusses salvaging plants from the mine site and establishing a seed bank from the Project area and immediate vicinity for reseeding and revegetation or to allow natural revegetation. It is not clear from the Reclamation Plan that site reclamation will result in higher vegetation cover or species diversity than currently exists.

Revisions to Final EIS/EIR: None.

Response to Comment J010:007: See Response to Comment E002:019.

Response to Comment J010:008: See Response to Comment E002:019.

Response to Comment J010:009: The BLM believes that the 33 acres at the bottom of the East Pit will not be "reclaimed;" thus the difference.

Revision to the EIS/EIR: None.

Response to Comment J010:010: See Response to General Comment 002.

Response to Comment J010:011: Section 4.1.10.2. (pages 4-110 and 4-111) of the Draft EIS/EIR states that "Indirect employment opportunities generated by the Proposed Action were estimated by applying multipliers commonly used in the mining industry. Dobra (1988) assumes that for every job created in the mining industry, an additional 1.25 job opportunities are created in other sectors

RESPONSE TO COMMENT LETTER J010 RECEIVED FROM LINDA L. BROOKS, DATED APRIL 13, 1998

of the economy. Using this factor, the Project is estimated to create, or continue in existence, 150 jobs." These additional 150 jobs are not described as a lost opportunity under the No Action Alternative because they are not considered a direct beneficial impact.

Revisions to Final EIS/EIR: None.

Response to Comment J010:012: See Response to General Comment 001.

PLEASE **J011**

Sierra Club - San Diego/ Imperial County ACTION ALERT:
Glamis Imperial Mine (CHEMGOLD) -- AGAIN! 2-2-98
Letters must be received in the BLM office, *not just postmarked*, by February. 25, 1998.

001 This proposed mine will impact (destroy?) 1625 acres (nearly 2-1/2 square miles) of sensitive, sacred land, with pits up to 800 feet deep, with no protection of ground water and downstream sensitive lands. Most major impacts can NOT be mitigated, as pointed out by the Quechen Indians, the Draft EIR, and even Ed Hastey, State Director, Bureau of Land Management (BLM). Ask for NO PROJECT.

If you have written before: Please
All previous comments were reduced to scoping status, and essentially eliminated from the legal record. Please, when you write this time, ask that your letter -- all comment letters -- be included in the new EIR/EIS. A new, revised Draft document has been issued for a slightly modified project, and it is this document that we are commenting on. For our comments to be part of the record, we must write again.

Our letters are needed to give the BLM the courage to just say no, which, by law, they should do.
Write to: Bureau of Land Management (BLM)
Attention: Douglas Romall 1661 South 4th Street El Centro CA 92243
Phone: (909) 697-5237 Fax: (760) 337-4490

Thank You!

Send copies to Senators Barbara Boxer US Senate, Washington DC 20510
or send to Boxer's local office, 525 B st. # 900, San Diego CA 92101 ATTN: Dan Hammer

Secretary of Interior Bruce Babbitt 1849 C St. NW Washington DC 20240

---- BACKGROUND ----
Chemgold's Imperial Project is a proposed open pit, cyanide heap-leach gold mine on Indian Pass Road in eastern Imperial County, 1 mile from Picacho Peak Wilderness, 3/4 mile from Indian Pass archeological site, 2 miles from Indian Pass Wilderness, and 2 miles from critical habitat for the desert tortoise, an endangered species.

002 This mine would disrupt alluvial plains and wide braided washes which support large desert trees and shrubs, important sources of forage and shelter for a variety of wildlife. "Mitigation" proposed would be planting seeds and seedlings..to substitute for huge, ancient, slow-growing trees, to compensate for the destruction of 100 acres of mature micropyll woodlands, an endangered habitat.

003 Pits, waste piles, and leach heaps would destroy 49 archeological sites, and "disturb" 1356 acres of 1598 acres of BLM public lands. It would also disturb 57 more acres for power and pipe lines for wells to the mine site. Four water wells would be drilled, to provide 100 gallons/ minute. One well has already been drilled illegally.

004 The mine would leach up to 150 tons of ore and leave waste rock piles of 450 tons, with 24 hour operation, 7 days per week, for 20 years. Pits would be 400, 760, and 800 feet deep, one 270 feet below the water table. Several drainages would be diverted around the mine.

005 This project is one of the many horror stories of the 1872 Mining Law. Chemgold will pay no taxes, and will leave taxpayers the cost of cleanup after mining ends, or when this subsidiary goes broke and/or abandons operations. Chemgold is a wholly owned subsidiary of a wholly owned subsidary of a

Chuck Fisher
4514 Cleveland Ave. #7
San Diego CA 92116 - 2116
e-mail ---> chuck-57@hotmail.com

Canadian Company called Glamis Gold, Ltd. Yet it can leave deep pits and 400 foot waste piles fenced with chain link and barbed wire -- and this is public land!

The biggest pits would not be backfilled -- too expensive, says Glamis. This proves the mine is not financially feasible, says an expert. Gold prices are now around $300 per ounce and dropping. Glamis once said it would go away if gold dropped below $300. Glamis, a Canadian company, wants to leave clean-up costs to us US taxpayers, as many, many mining companies have done before. The project lies

006 on a west-sloping, pristine area with several unimpaired washes full of palo verde, mesquite, and ironwood trees, annual plants, and much wildlife. The area is the ancestral home of the Quechen Indian Tribe, the second largest in California.. The cultural sites, trails, and trade routes (Indian Pass) date back some 10,000 years. The site lies close to two designated wilderness areas and adjacent to the Indian Pass Area of Critical Environmental Concern (ACEC). The area has a Class L (Limited Use) designation under the California Desert Conservation Area Plan. Class L land uses are „oriented toward giving priority to the protection of sensitive, natural, scenic, ecological and cultural resources while placing limitations on other uses which may conflict with these values. Clear enough, say I.

007 The first Draft EIR/EIS elicited 425 comment letters. (Thank you, one and all!.) BLM was overwhelmed and withdrew the document. The comments were reduced to scoping status. A new, revised Draft document has been issued for a slightly modified project, and it is this document that we are commenting on. Thanks to you who received and read the whole 9 pounds.

008 BLM does NOT have to approve the project; its hands are NOT tied.

The 1872 Mining Law itself is subject to regulations under law, including the National Environmental Policy Act (NEPA), Federal Land Policy and Management Act (FLPMA), with it's special section relating to the California Desert: "It is the purpose of this section to provide for the immediate and future protection and administration of public lands in the California desert within the framework of a program of multiple use and sustained yield, and the maintenance of environmental quality." This places the environment on an equal footing with multiple use and sustained yield. Furthermore, there are numerous mandates to the Secretary of Interior to "prevent undue and unnecessary degradation of the lands and their resources, and to provide environmental protection, especially in the California Desert Conservation Area. "

009 Please remind BLM of these mandates, and of their responsibility to comply with them. The EIS/EIR is inadequate, incomplete, and internally conflicting, disregarding both NEPA and CEQA.

Please write. Ask for No Project. Give your personal reasons, and/or use info given above.

Write to: Bureau of Land Management (BLM)
Attention: Douglas Romali 1661 South 4th Street El Centro CA 92243
Phone: (909) 697-5237 Fax: (760) 337-4490

Send copies to Senators Barbara Boxer US Senate, Washington DC 20510
or send to Boxer,s local office, 525 B st. # 900, ATTN: Dan Hammer

Secretary of Interior Bruce Babbitt 1849 C St. NW Washington DC 20240

Thank you! We just might stop this mine, and set a profoundly important precedent.
Credits to Edie Harmon, Norma Sullivan, and Harriet Allen for this information.

RESPONSE TO COMMENT LETTER J011 RECEIVED FROM CHUCK FISHER, NO DATE

Response to Comment J011:001: See Response to General Comment 002.

Response to Comment J011:002: See Responses to Comments E001:004, E002:020 and I013:168.

Response to Comment J011:003: (See Also Response to General Comment 002.) As stated in Section 4.1.3.2.2. (page 4-19) of the Draft EIS/EIR, ground water exploration well PW-1 "was drilled under the Ground Water Management Ordinance permit exemption for production exploration wells." Thus, existing well PW-1 was not drilled illegally.

Revisions to the Final EIS/EIR: None.

Response to Comment J011:004: See Response to General Comment 002.

Response to Comment J011:005: See Response to General Comment 002.

Response to Comment J011:006: See Response to General Comment 002.

Response to Comment J011:007: See Response to Comment I013:004.

Response to Comment J011:008: See Response to Comment I010:002.

Response to Comment J011:009: See Response to General Comment 002.

J012

Bill Evans
Ste. 201
7061 Clairemont Mesa Blvd
San Diego, CA 92111-1042

FEB. 1998

Comments: Bill Evans

Reference: GLAMIS IMPERIAL MINE (CHEMGOLD) PROJECT See pg. 6!

MR. Doug Romoli
Bureau of Land Mgmt.
1661 South 4th. ST.
El Centro, CA 92243

MR. John Morrison
Asst. Planning Director
Imperial Co. Planning Dept.
939 Main St.
El Centro, CA 92243.

MR. DOUG ROMOLI and Associated BLM Staff:

MR. JOHN MORRISON and Associated Planning Dept. Staff:

001 Thank you for extending the Comment period to FEB. 26, 1998. I trust each response will be weighed and considered seriously before your decision in the Final EIS.

I have visited, camped, explored, hiked the area encompassing the proposed mine site as well as portions of the Jacinto Pass and Picacho Peak Wilderness areas. I have talked with many people regarding this proposal and have studied the DEIS "multi-Vol. set".

The area is pristine, vast, unmarred, and retains its character best for the few roads & tracks in the area. Cultural sites and evidence are abundant. The trail system of Native Americans is important and undisturbed. The religious character, scope, and tradition of the landscape becomes obvious if any amt.
002 of quality time is spent in the area. Gold is not a critical or strategic hard rock ore. Sites for proposed

Bill Evans
Ste 201
7961 Clairemont Mesa Blvd
San Diego, CA 92111

pg 2 Glamis Imperial Mine comments Bill EVANS
miner must be evaluated by the BLM for alternative
uses and values besides mining. BLM has failed to
proceed or act on this legal obligation.

003 It, the BLM decision on this Glamis Imperial Mine proposal,
will be and is no-brainer obvious to any individual,
entity, or organization. With an even somewhat
healthy, conscious, functioning brain and the ability
to objectively reason and evaluate best use criteria
for this area - the decision almost certainly will be
to deny the permit for the proposal. Add to this an
even minimal minimal dose of the difference between
right and wrong, ethics, morals, fairness, a soul,
and a conscious - and absolutely BLM's staff
and managers can recommend nothing else
decision-wise but to deny the proposal + permit
in favor of the No Project, No Action alternative.
Where does this leave you folks? Not in a place
where I want to be.

I categorically recommend the No Action, No Project
Alternative - and you must adopt in the Final EIS.
For to do otherwise will be a sham on the
American Public, an unprofessional and incompetent
decision reflecting on the credibility of the BLM, a
blatant denial of the evidence & facts, and your
responsibilities & toward the Native Americans, their
right to practice their religious traditions & freedoms,

Bill Evans
Ste 201
7067 Clairemont Mesa Blvd
San Diego, CA 92111

pg. 3 Glamis Imperial Mine Comments Bill EVANS

an admission by BLM that the option of, this site's geography and the cultural, geological heritage for current + future generations of Americans is invalid or does not exist.

The truth be known, if you approve this project, you're (the BLM) ~~is~~ sanctioning the destruction of an ethnic groups church, religion, + way of life. Truth be known, this proposal is not a valid mining proposal, its taxpayer assist to a seize and destroy edict giving Glamis legal but criminal license to destroy the current integrity of approx. 2½ square miles of land. And not just surface destroy, but dig deep pits up to 800 feet deep and then walk away after 15 to 20 yrs. leaving the site for you + me + the rest of America to deal with, clean-up, back fill. Solitude, recreation, Quechan culture, wildlife habitat, riparian habitat, the entire nature and character of the landscape will never be the same in human time terms.

004 Your hefty, heavy, ultra-expensive DEIS is deceitful, ignorant + dim when it comes to describing possible + proposed mitigation measures. All of the major, significant impacts of this proposal have No, None, Nada viable, plausible, workable mitigation measures.

cont.

Mr. F. W. Evans
7061 Clairemont Mesa Blvd.
Ste 201
San Diego, CA 92111

pg. 4 Glamis Imperial Mine Comments. Bill EVANS.

I have a few questions for you to answer: to me, to the American public, to Ed Heatley and Senator Boxer, to the Quechan Nation, to your families, friends, & perhaps to yourselves.

005 ① What is the highest & best long-term public good and benefit for this land?

006 ② Why did the El Centro BLM office already state a preferred alternative prior to the public input?

007 ③ What would you do, those of you belonging to and attending an organized religious church, if a foreign company showed up one Sunday & told you they were tearing down your church and digging a pit to mine gold underneath your church site?

008 ④ How many & how much bribe(s) (money) has General Manager Steve Baumann of Glamis Imperial offered verbally, or perhaps more brazenly in writing, to any of you for your favors and approval?

009 ⑤ What inside absolute assurance & knowledge do any BLM managers or staff have or hold to indicate, to guarantee Chemgold & Glamis Imperial will honor their commitments, will responsibly act to minimize & mitigate impacts, will conduct their operations with any integrity, professionalism, or punctual time lines? The nature, mentality, motivation, behavior, and track record of 99.9 % of

pg. 5 Glamis Imperial Mine Comments. Bill Evans.

mining Corp., 99.9% of the time is an abysmal, anti-stream of this. Giving or countenancing any degree of honor, faith, or community responsibility toward Chemgold or Glamis will be foolish, naive, and an abdication of public trust the Am. Public places in BLM.

010 ⑥ How can the local & State BLM go forward - with approval of a project either legally or professionally when the economics are a mirage, the site impacts are unmitigatable, Native Am. religious & cultural sites are systematically destroyed, there is legal precedent for denying the project, there are Dept. of the Interior mandates for denying the project, there are NEPA/FLPMA regulations BLM can use to deny the project, AND 99% of public, scientific, & organization input and comments state concisely - DON'T DO IT?

011 ⑦ What is it about career management personnel in nearly every federal & state agency, including of course BLM & the USFS, whom we the citizen appoint, hire, pay for & put in ~~trust~~ public trust, who, we it comes to land management decisions which look so obvious to the majority of interested, involved citizens, turn in their professional ethics, slither around in some special interest slime, have ~~BRAIN~~ brands of back bone turn to mush, and sell out the very sacred principles they've been sworn to uphold?

Please, some straightforward answers. Then deny the project.

Sincerely, Bill Evans

Bill Evans
6781 Diamond Head Blvd
San Diego, CA 92111

pg. 6 Imperial Project. Comments Bill Evans

Addendum: Imperial County Planning Dept.

012 Mr. Morrison and staff:

Do us the justice and honor of your actions, do the right, the best, the long-term solution - please deny the Conditional Use Permit for the water wells needed to suck up the huge acre feet M. of water required to use with the cyanide heap-leach mine proposed.

Please deny or reject the proposed Reclamation Plan which is incomplete, unviable, and dishonest. There is no reclamation plan possible to mitigate and reclamate a 8 plus square mile destruction and deep pit zone to of riparian habitats, desert varnish, and the complex natural soil & vegetation system; not to mention the cultural and archaeological sites obliterated.

Thank you for your courage, for your professional strength, and for making a wise and difficult decision in favor of life, balance, human integrity, & the honorable future of Imperial County.

Regards,
Bill Evans.

Mr. F. W. Evans
7061 Claremont Mesa Blvd.
Ste 201
San Diego, CA 92111

RESPONSE TO COMMENT LETTER J012 RECEIVED FROM BILL EVANS, DATED FEBRUARY 1998

Response to Comment J012:001: See Response to General Comment 002.

Response to Comment J012:002: See Responses to Comments I015:007 and J022:004.

Response to Comment J012:003: See Response to Comment I012:001.

Response to Comment J012:004: See Response to Comment J007:015.

Response to Comment J012:005: See Response to Comment I015:007.

Response to Comment J012:006: See Response to Comment J007:001.

Response to Comment J012:007: See Response to Comment H001:004.

Response to Comment J012:008: See Response to General Comment 002.

Response to Comment J012:009: See Response to Comment I013:163.

Response to Comment J012:010: See Response to General Comment 001.

Response to Comment J012:011: See Response to General Comment 001.

Response to Comment J012:012: See Response to General Comment 002.

RECEIVED
IMPERIAL COUNTY
PLANNING / BUILDING

'97 DEC 5 PM 4 03

1 December 1997

Bureau of Land Management
1661 S. 4th St.
El Centro, CA 92243
Attn: Doug Romoli

J013

Dear Sirs:

001 This letter is written after visiting the Imperial ValleyProject/Chemgold proposed open pit cyanide heap leach gold mine site on Indian Pass Rd. over the 1997 Thanksgiving Day weekend. I am a teacher, holder of an advanced degree, and have extensive experience in surveying and recording various Southwest rock art sites, as well as archeological "dig" training and experience. It is my opinion that the loss of the cultural resources which would result from the proposed open pit mine and rock piles is inestimable, both in terms of its uniqueness and its extensiveness. That this loss is even contemplated in exchange for a non-essential mining profit, not even that of a U.S. company, is unimaginable. Both as a private citizen and as a student of Native American cultural and spiritual beliefs and practices, I am appalled that once again the BLM is contemplating giving an easy approval to such a project. This is exactly why many American citizens have less trust in the BLM than they have "in a used car salesman." (Peter Ertman's words)

Your own 11/96 DEIS/EIR includes the following quotation: "...the mountains along the Colorado River region are highly significant in regional Native American cultural and ethnic identification. Spiritual activities and events are deeply associated with numerous intaglios, petroglyphs, trails, lithic scatters, and cleared (dreaming) circles present along the Colorado River and surrounding hills." (Lorey Cachora) From my personal observation, I would confirm the importance of the exact area of the proposed gold mine site for all of the above reasons, particularly as it lies at a point which seems to be a unique confluence of Archaic and historical trails and trade networks. Evidence is clear for extensive temporary habitation sites in the housing circles found on this desert-pavement floor. Further study of the important trade networks and habitation sites to establish prehistoric as well as historical significances will be totally demolished by such a large mining operation.

002 In addition, I observed much evidence of contemporary (and historical) Quechan cultural usage of this exact area: both their spiritual and educational lives are inextricably bound up in a <u>particular</u> geographic landscape, which happens to be this <u>particular</u> site. "Quechans believe that creation of huge man-made rock piles associated with the mine project would create 'an enormous shadow during morning hours and completely alter its purpose and destroy its future use forever.'" (Quechan Cultural Ctte. 2/10/97) How much more clearly can a people state their critical spiritual beliefs?

As an American citizen (by birth), I study and practice a non-Christian, non-Jewish, non-Moslem religion. Now, I am <u>never</u> asked to delimit or explain to anyone in any economic or political or professional sphere why, how or even <u>what</u> my religious practices are. Why are the Native Americans, here specifically the Quechans, expected to explain , justify and even produce <u>tangible</u> evidence as proof of the validity of their sacred geography? Your

historic task of preserving "reasonable use of public lands" alone would seem to contradict the destruction of one peoples sacred geography for the sake of a non-strategic, non-United States private mining venture.

003 Apparently, this same mining company has a previous site in the Picacho Mts. area which will leave a huge open pit and enormous rock piles upon completion of its operation in the near future. It is also my understanding that the so-called mitigation efforts to return the landscape and vegetation to its former, agreed upon standards were not met. Why are you proposing allowing this same organization to continue in further environmental desvastation? This certainly is not protecting my interests as a public citizen. Precisely which "public interests" does it preserve?

004 Further, my experience in this area reveals it to be a pristine area, with a beautiful and unique landscape, presently used for hunting, quiet recreation and hiking, and solitude. Why is it in my "public interest" to destroy yet another such unique desert environment, with its inevitable loss of endangered plant and animal species?

005 Primarily, however, my opposition to the BLM's approval of the proposed open pit gold mine on Indian Pass Rd. relates to its task as defined by Executive Order 13007 Sec. 1, whichrequires, among other things, that the "agency with administrative responsibility for management of Federal lands shall...(1) accommodate access to and ceremonial use of Indian sacred sites by Indian religious practicioners and (2) avoid adversely affecting the physical integrity of such sacred sites." Yours is the agency with this responsibility, a critical, nay essential, one if we are to preserve all of our cultural, historical and spiritual resources. The United States and all of its citizens have a unique "public interest" in this preservation.

And as Bill Weahkee stated, "Someday, we're going to be ancestors ourselves. That's important. And we want people in the future to say our ancestors thought enough about us to keep this land intact." (Quoted in USDOI NPS.)

006 I would appreciate a response to this letter, and would also like to be placed on your mailing list for future notification of hearings, decisions, and publications as they relate to the Imperial Valley Project/Chemgold open pit gold mine, Imperial Valley.

Sincerely,

Susanna de Falla

Susanna de Falla
228 Newport Ave., #2
Long Beach, CA 90803

xc: Imperial Co. Planning Dept.
John Garamendi, Secry of Interior
Senator Dianne Feinstein
Senator Barbara Boxer

RESPONSE TO COMMENT LETTER J013 RECEIVED FROM SUSANNA DE FALLA, DATED DECEMBER 1, 1997

Response to Comment J013:001: See Response to General Comment 002.

Response to Comment J013:002: See Response to Comment A001:005.

Response to Comment J013:003: See Responses to Comments I013:079 and I013:114.

Response to Comment J013:004: See Response to General Comment 002.

Response to Comment J013:005: See Response to Comment I005:004.

Response to Comment J013:006: See Response to General Comment 002.

December 3, 1997

J014

Bureau of Land Management
1661 South 4th Street
El Centro, CA 92243
Attn: Douglas Romoli

Dear Mr. Romoli,

001 I would like to submit these comments on the updated EIS/EIR on the Imperial Project gold mine. After reading through these lengthy documents, all I can see is the same environmental disaster that was described in the original document. I am sorry that all this money was spent to rewrite this document because approval of this project by the BLM is unacceptable. The new mitigations proposed in the new document fall short of preserving the natural integrity of the Colorado Desert. For the following reasons I must insist on the No Action Alternative.

002 1. Why is the deadline for comments so short? This document is very difficult to read. The comment period should be extended by at least 6 months.

003 2. When will the BLM realize that the best way to protect desert tortoises is to leave their habitat undisturbed? The EIS states that 33 to 50 or more tortoises are found in the project area. The Recovery Plan of 1994 defines critical habitat as 10 or more adult tortoises per square mile. The EIS does not state the age of the tortoises. This could be critical habitat. All of the mitigation measures that will be taken to protect tortoises will still cause stress on the animals. Stress brings out disease. Construction of fences and relocation of animals which disrupt home range are 2 stress causing factors that could bring out URTD and cutaneous dyskeratosis - a disease predominant to southern Mojave populations.

004 When I submitted my comments on the first draft EIS, I mentioned the new findings on high concentrations of toxic substances or trace metals found in the carcasses of diseased tortoises. **You sent me a letter requesting information confirming this. It surprised me to receive that letter. I sent you a list of papers you could request. I did not see one of these papers cited in the reference section of the EIS. If you did your homework, you did not make it obvious. All the EIS states is that toxic materials will be contained. How will this be done? Why did you send me that letter? I am sending you another copy of the list of papers.** When the site is reclaimed and if the area can successfully be revegetated, how can you be sure that high concentrations of trace metals will not be in the soils? **The bottom line is you can not protect tortoises by destroying their habitat.**

005 3. The EIS states that chuckwallas will be moved 100 meters outside the parameter fence. Any herpetologist can tell you that chuckwallas have a high mortality rate when relocated.

006 4. The EIS acknowledges that desert bighorn inhabit the surrounding mountains, but states that blasting will have little effect on them. What do you base this information on? Dust from blasting

and vehicle traffic can infiltrate the lungs of lambs, causing a higher mortality rate. Nothing in the EIS states that you have looked into this

007 5. The EIS openly acknowledges that approval of this project will have significant impacts on the esthetic values of the Indian Pass and Picacho Peak Wilderness Areas. Impacts will be UNAVOIDABLE. Why is the BLM so willing to trade off the natural and cultural integrity of the Colorado Desert for a gold mine that so many taxpayers are opposed to?

008 6. The mitigation measures proposed to compensate the Quechan Tribe's ability to use the Indian Pass-Running Man ATTC for "traditional cultural education programs" in an insult to their culture as it would be to any culture. Museums, videos, transcribing oral history and ethonographic studies can not and never will be the same as the real site. Try to show some respect to these people

009 7. The IDI decision (The United States of America v. United Mining Company. 11/1/94) concluded that "A mining claim is invalid under the Act of 1872 is more valuable for purposes other than mining." Examples used were aesthetics and geologic purposes. Clearly the Colorado Desert falls into this category.

010 IN CONCLUSION: If The Imperial Project is approved, another Canadian mining company could make several million dollars and only pay a fraction of these profits to America. All we will be left with is another huge, ugly scar on our beautiful desert landscape that will never recover. Do not waste money writing another EIS. Just go with the **NO ACTION ALTERNATIVE!**

I am sending copies of this letter along with the references to tortoise disease to Senator Barbara Boxer and the Interior Secretary. I would like them to look into why the references were not cited in the second EIS.

Thank you.

Kevin Emmerich
P.O. Box 51
Death Valley, CA 92328

RESPONSE TO COMMENT LETTER J014 RECEIVED FROM KEVIN EMMERICH, DATED DECEMBER 3, 1997

Response to Comment J014:001: See Response to General Comment 001.

Response to Comment J014:002: Comment noted. The comment period deadline was extended from January 27, 1998 to April 13, 1998.

Revision to the Final EIS/EIR: None.

Response to Comment J014:003: See Responses to Comments A001:008, I006:005 and J014:004.

Response to Comment J014:004: (See Also Response to Comment I006:005.) There is no evidence presented in the information provided by the comment author that indicates that the trace metals found in desert tortoise carcasses are linked to mining activities. Mitigation Measures 4.1.5-33, 4.1.5-34, and 4.1.5-39 are designed to minimize any exposure of desert tortoises to toxic materials, including process solutions, during Project operations. As discussed in Section 2.1.4 (pages 2-12 and 2-13) of the Draft EIS/EIR, the waste characterization studies conducted on samples of waste rock and leached ore indicated that the concentrations of trace metals in the rock are low, and that the leachates which may be formed from acidic precipitation moving through the waste rock or leached ore would also have very low concentrations of metals. Thus, high concentrations of metals in the soils is very unlikely.

Revisions to the Final EIS/EIR: None.

Response to Comment J014:005: See Response to Comment I006:004.

Response to Comment J014:006: As stated in Section 3.5.6.1. (pages 3-80 and 3-81) and Section 4.1.5.3.4. (page 4-64) of the Draft EIS/EIR, no bighorn sheep were observed within the Project area during the biological survey, and the Project area is not within established bighorn sheep habitat. Natural dispersal corridors, between Peter Kane Mountain to the north and the Cargo Muchacho Mountains to the south, lie several miles to the east of the Project mine and process area.

As stated in Section 4.1.4.2. (pages 4-39 through 4-42) of the Draft EIS/EIR, the projected maximum ambient 24-hour particulate concentration created by all Project operations at a distance of 2.3 miles from the Project mine and process area (approximately the distance to Indian Pass and the bighorn sheep corridor) was 5 $\mu g/m^3$, which is approximately one-tenth of the state (and one-thirtieth the federal) ambient 24-hour standard designed to protect human health. Annual ambient particulate concentrations were predicted to be substantially less than one $\mu g/m^3$, which is less than one-thirtieth

RESPONSE TO COMMENT LETTER J014 RECEIVED FROM KEVIN EMMERICH, DATED DECEMBER 3, 1997

of the state (and one-fiftieth the federal) ambient annual standard designed to protect human health, and less than one twentieth the existing ambient background concentration. Since the increases to airborne particulates from Project operations are so small at the locations likely visited by the bighorn sheep, there is no expected impact to bighorn sheep from airborne particulates.

Revisions to the Final EIS/EIR: The Final EIS/EIR will be revised by changing the discussion of impacts on bighorn sheep on page 4-64 of the Draft EIS/EIR as follows:

> "Desert bighorn sheep: No bighorn sheep were observed within the Project area during the biological survey, and the Project area is not within established bighorn habitat. Natural dispersal corridors, between Peter Kane Mountain to the north and the Cargo Muchacho Mountains to the south, lie several miles to the east of the Project mine and process area, and these routes would not be directly affected by the Project activities. Although noise from Project operations, especially from blasting, may be discernable in these areas, the effect on bighorn sheep would be below the level of significance. Bighorn moving in the vicinity of the Project would be exposed to fugitive dust emissions from Project activities, but the projected concentrations of PM_{10} from the Project would at all times be within federal and state ambient air quality standards. There is no information base on impacts to bighorn sheep from low concentrations of airborne particulate matter, but based on available health-health criteria the impact would be below the level of significance. The Project facilities may impact movement of bighorn sheep rams between mountain ranges; however, this direct route is not considered a substantial movement corridor and the impact of the Project on desert bighorn sheep movement would be below the level of significance."

Response to Comment J014:007: See Response to General Comment 002.

Response to Comment J014:008: See Response to Comment I012:023.

Response to Comment J014:009: See Response to Comment I015:007.

Response to Comment J014:010: See Response to General Comment 001.

J015

12/22/97

RECEIVED
BUREAU OF LAND MANAGEMENT
DESERT DISTRICT
EL CENTRO, CA

Bureau of Land Management
1661 South 4th Street
El Centro, Ca. 92243-

Attn: Mr. Douglas Romoli.

001 It was stated in the Yuma Sun (12/19/97) that your office wishes comments regarding mining proposals upon public lands which the Quechan Indians now claim as part of their Nature "American Spiritual Network which stretches" 200 miles north through the California desert. The Yuma Sun printed the picture of the Quechans losing their sacred ground. A sad story if true. I personally have not seen one Indian searching for his past in my many trips through Indian Pass.

003 Let me suggest that this is a ploy to gain land, money, and influence. An example of similar tactics was the establishment of the Nez Perce Historical trail through Oregon, Idaho, and into the Bear Paw Mountains of Montana. Meetings were held for citizen input. Indians and Indian artists claimed religious significance - I attended the meetings for the Canyon Creek Battlefield. The only people killed there were

several white soldiers; yet, Indians claimed religious significance. Needless to say, the Government established the "trail" composed of many units, costing much money, and supervised by the National Park Service. Loosely to small parcels of State land, forest service land, B.L.M. land, and private land!

It worked for the Nez Perce. I believe it will work for the Quechan. The strategies for gaining power and influence are tried and historically successful for the Indians: Claim ancestral significance and religious need to practice his religion and regain his heritage! The loss of course is to my children and their children and to those of us who use public land. I believe the Quechan seek to gain land and influence; thereby, expanding their reservation.

004 As a "devils advocate" let me offer this. The Quechan have accepted what the White Mans Government offered them after they lost the Indian Wars". This included citizenship, free land, free college grants, commodities, freedom from taxes on the reservation, free passes to National Parks; basically

a "free lunch". No work required! Now, after three or four generations (120 years) the tribes are calling themselves nations and agressively going after the "limits". Sorry to say I have seen no limits.

005 I have written this letter as a matter of pride in myself. I am a White American who has earned his station in life. I have taken nothing from the Government: no free housing, no food stamps, no free land, no preferential employment, no claim that public land is my sacred land, etc. I have always paid taxes. I have always worked. I have served 3 years in the military. I have a family. I did attend college (working up to 3 jobs at a time) and earned B. Sc., M. Ed., and a doctorate of psychology. Am I a success? You bet! I have never compromised my values. I would like to see the Bureau of Land Management stand tall and preserve and manage this land for all Americans not just the "Quechan Nation".

Sincerely

Dr. Don Baker
3707 West Highway 80
Winterhaven, Ca 92283

Reply Requested

cc Michele Aben Ypma Sun

RESPONSE TO COMMENT LETTER J015 RECEIVED FROM DON BAKER, DATED DECEMBER 22, 1997

Response to Comment J015:001: (The Following Response is Also Applicable to Comments J015:002, J015:003, J015:004, J015:005 and J024:001.) Comments noted. However, this is not consistent with the conclusions of the Draft EIS/EIR (see Section 3.6.).

Revisions to the Final EIS/EIR: None.

Response to Comment J015:002: See Response to Comment J015:001.

Response to Comment J015:003: See Response to Comment J015:001.

Response to Comment J015:004: See Response to Comment J015:001.

Response to Comment J015:005: See Response to Comment J015:001.

page 1 of 6

Alice Tseng
6801 Trojan Ct.
Moorpark, CA 93021
Jan. 20, 1998

J016

Imperial County Planning Dept.
939 Main St.
El Centro, CA 92243
Dear Mr. Romoli,

001 I am writing to oppose the proposed open-pit cyanide help leach gold mine on Indian Pass Rd., Imperial County by Glamis Imperial Corp. due to the sacred geology and geographical heritages of the area. We've even found an undocumented site composed of stones (see enclosed photographs). I personally visited the proposed mining site and felt that a great deal of the the sacred geology and geographical heritages will be lost forever if the mining activity were to go through. I've enclosed my jounal of my visit to the area for your reference.

Sincerely Yours,

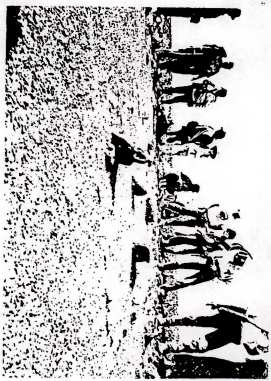
Alice Tseng
Concerned Citizen

cc:
Senator Barbara Boxer
525 B. St., Ste 900
San Diego, CA 92101

John Garamendi
Deputy Secretary of Interior
Interior Dept.
1849 C. St. NW
Washington, D.C. 20240

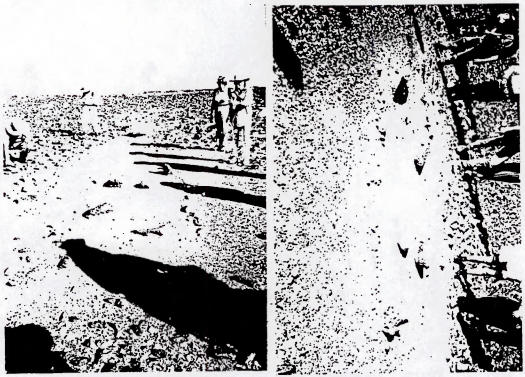








page 286



page > 96

So I was on my way on Nov. 27th to join a Quechan Activist Thanksgiving celebration put on by the Angeles and San Diego Chapters of the Sierra Club (California/Nevada Desert Conservation Committee), spending three days in the Colorado desert. Jim had faxed me the details of the events coming my way, I was very excited about this outing. While heading for the campsite somewhere in the Indian Pass and Picacho Wilderness areas, I saw the Picacho Moutain beaconing, its abrupt sheerness was the first thing you'd notice about this landscape, haunting but inviting, radiating energy and source of life. While driving on a dusty dirt road, glancing over this vast and amazing landscape, I felt as if I had stepped into some chapter in Ed Abbey's "Desert Solitaire," all within a day's walk to reach the Colorado River. The campsite was located in a vast and naturally levelled area nestled with Cargo Muchacho mountains to the East and Chocolate/Black Mountain to the West while facing directly north to the Picacho Mountain. There were lots remanents of volcanic activities, dark basalt rocks, quartz, admist paved sandwashes. On the map, the sheltered campsite was only a small dot. Later I learned that Picacho was where the Spiritual Leader had landed.

Finally after five hours of driving from Ventura County, I reached the campsite. I carried my sitting chair to join the people already present. Qwen, Edie, Jim, Bob, Elden and his wife, Nick, all of the major players in the Desert Protection Act were there. Lorey Cachora, an Archaeology, Cultural Resource & Governing Board Consultant, was at work attentively, sitting in the center of a circle of some 100 people. An excellent story-teller, he was explaining the threats, to the Quechans, the others of the People of the Colorado River, and us, from a proposed open pit gold mine by Glamis Imperial Corp., a Canadian company. The gold mine involves cyanide heap leaching, in the heart of Quechan's sacred land that is under BLM's management outside of the tribal reservation. There was a newscast interview conducted earlier, I was sorry to have not witnessed it. Lorey was interested in meeting everyone so a round of self-introduction followed his talk. I listened to each person and felt nothing but admiration and inspiration. Those people present at this circle were mostly strangers, from all walks of life, from all age groups, and yet shared so much in common. On this Thanksgiving day, a circle of friendship among the Quechans and us, to share good cheers and wishes, and a good meal, was quickly formed. A poem titled, "Crisis at Indian Pass," was read by the author, which concluded the talk on the gold mine and officially launched the 2pm Thanksgiving meal. We joined hands to bless and give thanks. Some Quechan teenages had to leave early without joining us at the meal. Following the Quechan tradition, they shook everyone's hand to say good-bye. I was sorry to see them leave. As I hugged each one of them they giggled.

The Thanksgiving meal lasted a good full hour or more. It seems that it can never fail when you eat a meal put on by the Sierra Clubbers. Many wooden tables were tugged under ironwood, part of the microphyll woodland habitat. I shared the same table where Linda and Crystal, Lorey's wife and daughter, were sitting. I felt so honored to have shared the table with them and the opportunity to learn more about them. Later as Lorey joined us, for some reason I stopped seeing them as Quechans but as people, just like you and I, the ordinary folks sitting together to share a good meal. People disbanded to go on short group hikes after the meal. Some went straight north toward the Picacho, some went West toward the Chocolate/Black or Julian Wash. I managed to squeeze in a short walk toward the Julian wash alone before darkness. Sunset quickly approached the campsite around 4:30pm, someone built a good campfire. Edie shared her thoughts on the sacred geology and geographical heritages found in the proposed mining site. I learned a lot from her, not only on her technical expertise on desert, the 1872 mining law, but her personal commitment to protect this land. She held a lantern in her hand sitting next to Lorey. With a notebook an inch thick filled with pencilled in hand-writing, Lorey revealed part of an abbreviated version of the story of Creation. Lorey has belabored on this notebook for the

page 4 of 6

past seven or eight years, someone mentioned. In the face of the mining threat to the land his acestors held sacred, the flickering fire reflected in Lorey's eyes revealed his spirits; tranquil, dignified with an air of austerity. When he talked, there was none other than a soft yet solemn speaking voice. Underneath all of these, I detected plenty faith, trust, openness, joy, acceptance, love, understanding, and kindness. And there was no one single moment that I failed to sense simultaneously his fighting spirit facing death, or the 'feather' signifying life-giving for the Quechans. Lorey spoke of Quechan's way of life, the controlled 'dreamer.' There were some conversation with Lorey and Linda on the reservation, future generations' education, I heard the same faith in her voice.

Before going to bed, I wanted to try being an coyote in my 'controlled' dream, but it didn't work.....

Friday morning I visited with seven desert tortoises in Eldon's motorhome, Eldon's wife had been rescuing lost or wounded tortoises. Those seven tortoises had running noses from the weather. I took some personal time to gather my thoughts, took my mind off of the desert, contemplating my day-to-day life. Sitting next to me was Carolyn, an incredible hiker at the young age of 70. Her firey red hair shimmered in the morning sun, I secretly wished to be as healthy and robust as her when I reach 70. The weather and temperature were working in our favor, Lorey took us on hikes around noon, he walked the desert, as many of his elders had. First we arrived at the site where petroglyphs were found. The Quechan petroglyphs take on the appearnce of checkered lines or tic-tac-toes, those where educational maps shown to tell boundaries of Quechan's land but in actuality 'boundary' was not a concept in Quechan's culture. Unlike those for the Chumash or the Coscos, who often employed animal figures in their petroglyphs, Quechan's were straight lines. Unfortunately vandalism left its mark at this site. At a different site, the 'Running Man,' outlined with dark basalt rocks, capturing the transcendal moment of entering into the spiritual world, various sleeping circles, medicine and dream trails were revealed to us. This vast land, a place that would take on thousand faces, under the intense sun, under turbulent hot summer air or a veil of morning mist, under the gentle moon and quiet stars, with wrens making their own desert songs, the landscape will be wantever you want it to be. I was introduced to more ironwood, pale verde, and brittlebush. Whenever I sat down on the land, I felt a downward pull. Some desert activists found an undocumented site of small yet sizeable stones and five larger stones carefully arranged in a square with an opening signaling entry. We took plenty of pictures to document this site and finding. This Lorey himself hasn't yet seen. Ward Valley near Needles, was mentioned several times. A proposed radioactive-waste dump site, Ward Valley has captured some media attention. Following the hike, typical Sierra Club-styled Happy hour brought out more good foods. Lorey, Linda, and Crystal bid farewell and left us. As soon as the foods surfaced and piled up on table, they were gobbled up in a equally fast speed. I turned in after learning from Nick on the hike in Julian Wash tomorrow.....

My last day here. Around 4 am I was awakened to this drum beat.....I couldn't stop hearing it. Was it the wind, my own heartbeat in this revealing quietness, or am I dreaming? At 5:30 am, I followed the drum beat, left my sleeping bag, went on this solitaire walk toward the Picacho Mountain.The drumbeat was still with me part of the time, it was the wind, but rhymic. I wanted to understand why people take a stand on issues, such as protecting the desert land I stand on, because too often apathy is the norm. I once heard that in the center of love is protection, or in the center of protection is love, I want to understand why people protect, why people love. To understand the desert is to walk it, just as to understand life is to walk through life. Could it be that to truly understand love is to protect and vice versa? I witnessed the sunrise, I turned back toward camp and understood so well that this landscape showed me life is about exploration, knowing that

page 5 of 6

there is more to what you can feel, touch, see, or hear right now wherever you are. This lesson is truly sacred.

After bidding farewell to the volcanic arches in Julian Wash Nick showed us, I drove away on the same dusty road I came in. Instead of the bright day light I came in with on Thanksgiving day, I was watching sunset in action turning the desert landscape right in front of me to shades of pink, purple, orange, green, yellow. As I was driving away, I remembered the wildflowers I saw on my solitary walk and in Julian Wash because of the recent desert rain. To protect is to love, and to love is to protect.....

RESPONSE TO COMMENT LETTER J016 RECEIVED FROM ALICE TSENG, DATED JANUARY 20, 1998

Response to Comment J016:001: See Responses to General Comment 002 and Comments A001:005 and I013:326.

January 21, 1998 **J017**

Douglas Romoli
Bureau of Land Management
1661 South 4th St.
El Centro, CA 92243

Dear Mr. Romoli:

I am submitting the following about the Draft Environmental Impact Statement/Report for the Imperial Project, State Clearinghouse No. 95041025.

001 After reading this lengthy document, I was unable to find any cost justification on the part of the Bureau of Land Management (BLM) for its involvement in this Project. Basic information about the expected life cycle revenue to the United Stated Treasury as well as all direct and indirect life cycle costs incurred by the BLM for the entire 20 plus year duration of this Project is missing. Basically, what I'm looking for is any indication whether or not this Project is a fiscally sound one for US taxpayers. From everything that I have read, the potential liabilities for Project's life cycle appear to far exceed any revenue or royalty that might accrue to the US Treasury.

002 The Project's ability to enforce the protection of native wildlife that may venture into the project area appears to be nonexistent. Who pays for the enforcement and what third party has been named to enforce wildlife protection that may wander onto the Project site?

003 Because the Project area borders within one mile of a Wilderness area, has there been any forecast of the adverse effects that 20 years worth of blasting and radical earth movements will have on these adjacently located public investments? The **Indian Pass** and **Picacacho Wilderness** areas and the **Desert Tortoise Critical Habitat** are all valuable public investments/ assets whose value and functionality will be greatly undermined and devalued during the time that the Imperial Project is active. **The net impact of this mine will cause the surrounding public investments to become devalued due to the proximity of such a large scale mining operation.** An appraisal should be done on the surrounding public lands with both scenarios: with and without heap leach gold mine within a mile of its borders to assess the actual amount of public land devaluation. An analogy could be made for the corresponding drop in real estate value of a home if the state decided to build a freeway within 50 yards of the home.

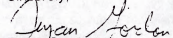
004 The draw on the underground aquifer within the Project area will reduce available supplies of water for living creatures in the adjacent Wilderness and Critical Habitat areas. **The assumption that the local native creatures will**

drink willingly from human made artificial water supplies is speculative at best. Most creatures will avoid any and all contact with humans including human-made water dispensing devices. To assume that these devices will mitigate the drop in the surrounding water table is very speculative.

005 Any alternative that leaves public BLM land with a visible open pit is totally unacceptable. Not only does this represent a potential liability (safety hazard) to the US taxpayer, but it is an ugly scar on public land that will highlight the land's perpetually devalued state. All open pits must be filled to surrounding grade level at project completion and an assessment of the functionality of the underground aquifer within the filled pit areas must be made to determine whether or not the water table will be restored to sustain plant life.

Thank you for considering my comments.

Sincerely,



Bryan Gordon
3650 S. Barrington Ave.
Los Angeles, CA 90066
310-390-2064

cc: Sierra Club

RESPONSE TO COMMENT LETTER J017 RECEIVED FROM BRYAN GORDON, DATED JANUARY 21, 1998

Response to Comment J017:001: See Responses to Comments I002:010 and J009:002.

Response to Comment J017:002: See Response to Comment I013:108.

Response to Comment J017:003: (See Also Responses to Comments A001:008, I013:002, I013:412, and I015:007.) The effect of the Project on the wilderness areas was provided in Section 4.1.9.2. (page 4-106) of the Draft EIS/EIR. The nearest desert tortoise critical habitat to the Project area is the Chuckwalla Unit, located at its closest approximately two (2) miles northwest of the Project mine and process area (see Figure 3.14). Section 4.1.5.3.3 of the Draft EIS/EIR concludes that the mitigated effects of the Proposed Action on the desert tortoise would be below the level of significance, and the Biological Assessment submitted by the BLM to the USFWS for the USFWS Biological Opinion concludes that, with mitigation, the Proposed Action would not jeopardize the continued existence of the desert tortoise. Similarly, the USFWS Biological Opinion issued March 28, 2000 determined that the level of take anticipated by the project is not likely to result in jeopardy to the species or destruction or adverse modification of critical habitat (see also Response to Comment E002:010).

Revisions to the Final EIS/EIR: None.

Response to Comment J017:004: See Response to Comment I013:198.

Response to Comment J017:005: See Response to Comment I005:010.

February 8, 1998

Bureau of Land Management
Attn: Douglas Romali
1661 South Fourth Street
El Centro, CA 92243

J018

Dear Mr. Romali:

001 -
I am writing in regard to the proposed Imperial Project. I support the "No Action Alternative". I enclose my previous letters on the project. Please consider them as comments on the present draft EIR/EIS as my objections to the mine remain the same. I have some additional comments as well.

002A
Section 1.6 discusses the statutory right of individuals to mine mineral resources they discover on public lands. Attached to that right is the responsibility and obligation to "prevent unnecessary or undue degradation of the Federal lands and to provide for reasonable reclamation." The draft EIS/EIR identifies significant and unmitigable impacts resulting from the project. These include impacts to cultural, historic and visual resources. I submit that significant and unmitigable impacts to resources are unnecessary and undue degradation. Further, the document fails to discuss impacts to "resources used outside the area of operation," specifically impacts to the surrounding established wilderness areas. Thus the Bureau of Land Management (BLM) is not required to allow mining operations to proceed.

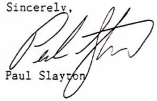
002B
I dispute the conclusions of the EIR/EIS that the socioeconomic impacts are not significant. Only the positive effects on employment are discussed. But as the document itself states, the land use of the area would be unalterably changed during the life of the project. There is no discussion and comparison of benefits from alternative economic development which would be precluded by operation of the mine, and continuing in perpetuity, due to permanent disturbance of the land.

Additionally, it is improper to conclude positive economic benefits from payroll and job multiplier effects when the document itself states that most of the workers would most likely reside in Yuma, Arizona. Presumably most of the purchasing power of the mine workers would go there. There are no estimates of payroll, resultant local economic activity (in terms of increased sales and property taxes) which would increase local government revenue. Finally, no cost/benefit analysis to determine whether it actually is better to have the mine operate as opposed to no mine, or the development of other economic activity.

003 -
One impact to groundwater quality was not discussed. It has been reported from other heap-leach mines that after operations and pumping cease, rising water tables mobilize elements which then contaminate the water supply. In the time during operation of the mine, nearby water tables will be lowered by an estimated 1.5 to 24.4 feet. No estimate of the volume of rock "exposed" by pumping, the possible risk of contamination or appropriate mitigation measures is included in the draft EIS/EIR.

I urge the BLM not to approve the proposed project and select the "No Action Alternative".

Sincerely,



Paul Slayton

March 10, 1996

Keith Schone
c/o Bureau of Land Management
1661 South Fourth St.
El Centro, CA 92243

Dear Mr. Schone:

I am writing you again to voice my opposition to the proposed Chemgold mine. As I said in my letter and at the public meeting in the Imperial Valley, enough of this nation's natural heritage has been lost. The proposed site of this mine is too close to vital habitat and conservation areas to be worthwhile. The mine might be justifiable on economic grounds if the returns were substantial enough to overcome the permanent and unmitigated impacts of the project. But I have looked at the EIR and the benefits accruing to the local economy through direct and multiplier effects do not seem to be so large as to justify such a great natural loss. This is mainly because no new mining jobs will be created. Additionally, the additional tax revenues added to the area of the new mine will be offset by the loss of tax revenues in the area of the old mine.

Considering the potential sources of pollution from dust and the cyanide leaching process, the permanent destruction of views, the increased erosion and inevitable disruption to wildlife, the proposed mine does not represent a worthwhile use of this nation's precious, dwindling and irreplaceable natural resources.

Sincerely,

Paul Slayton
1112 Seacoast Dr. #1
Imperial Beach, CA 91932

1-17-96

Mr. Kieth Schone
Bureau of Land Management
1661 South Fourth St.
El Centro, CA 92243

Dear Mr. Schone:

I support the "No Action" alternative for the proposed Indian Pass Road mine. The proposed destruction of so much habitat, the release of poisonous chemicals into the surrounding environment, the lack of adequate mitigation, and the failure of complete restoration of the site combine to make the proposed project an insult to owners of this land, the American people. It is also unthinkable to consider this project without public hearings. Please schedule some and I will attend.

I am an avid hiker. I can't tell you how many times I have been traveling through beautiful countryside only to have my senses assaulted by the results of mining. Enough of our national heritage has been destroyed for the narrow interests of a few. It is time to stop once and for all the spoiling of the little land we have left.

Sincerely,

Paul Slayton
1112 Seacoast Dr. #1
Imperial Beach, CA 91932

RESPONSE TO COMMENT LETTER J018 RECEIVED FROM PAUL SLAYTON, DATED FEBRUARY 8, 1998

Response to Comment J018:001: See Response to General Comment 001.

Response to Comment J018:002A: See Response to Comment I010:002.

Response to Comment J018:002B: See Responses to Comments I012:032, I015:002 and I015:007.

Response to Comment J018:003 This comment describes the situation at some other mines where the ground water table has been temporarily intentionally lowered through the pumping of ground water wells to allow the mining of ore from the portions of the pit(s) which are below the water table. During this process, called pit dewatering, the pit walls are exposed to the atmosphere, and certain rock minerals, especially those containing sulfide, can be altered. Once mining is complete, the pumping of the ground water wells ceases, and ground water is allowed to flow back into the open pit, creating a pit lake. The flow of ground water through, and the submersion in the pit lake of, the pit walls can then release the soluble portions of the altered rock minerals into the water, which can degrade ground water quality.

As stated in Section 4.1.3.1.2. (page 4-12) of the Draft EIS/EIR, "Because of the low permeability and porosity of the bedrock below the ground water table, little ground water is expected to enter the pits." Thus, the pumping of ground water through wells for the intentional dewatering of the pits is not proposed for the Imperial Project. Also, as discussed in Section 4.1.3.1.2. (pages 4-12 through 4-13) of the Draft EIS/EIR, no pit lakes are expected to form following the completion of mining activities. In addition, as discussed in Section 4.1.3.2.2. (pages 4-22 through 4-25) of the Draft EIS/EIR, the pit wall rock types are oxidized and will not form soluble altered rock minerals when exposed to atmospheric conditions during mining. Thus, none of the conditions of concern in the comment are anticipated to occur in the Imperial Project.

Revisions to the Final EIS/EIR: None.

PAUL C. HARMON
824 BARRINGTON COURT
TRENTON, OHIO 45067
(513)988-0297

J019

Feb 9, 1998

Bureau of Land Management
1661 So 4th St
El Centro, Ca. 92243
Mr. Doug Romoli

001 It has come to my attention that you may permit an open pit heap leach gold mine in eastern Imperial County. Having visited that area some years ago, I feel quite strongly that this would be a huge mistake. Open pit mining is ugly and would leave scars on beautiful land for many many years to come. Promises to restore the land are no remedy, even if kept, and that is doubtful. There is a good chance that the project will fail. Then what?

PAUL C. HARMON
824 BARRINGTON COURT
TRENTON, OHIO 45067
(513)988-0297

I am a retired chief economist for a major steel company, and I have seen what open pit coal mining did to eastern Ohio. Once the mining company got the coal, they made some feeble efforts at restoration and moved on, leaving a moonscape.

Even so, there was a great deal more economic reason to extract coal then there is for gold, and especially for such low grade ore.

002 At one time gold was held in large amounts by the central banks of industrialized countries as reserves against their currencies. That isn't the case anymore. Many are selling off their stocks of gold (which earn no interest) and backing their currencies with U.S. dollars and interest-earning securities.

3.

PAUL C. HARMON
824 BARRINGTON COURT
TRENTON, OHIO 45067
(513)988-0297

With no demand for gold from central banks and no demand for coinage, the price of gold depends almost entirely on jewelry. And there is already enough gold above ground to meet that demand for decades. People used to hoard gold as protection against inflation. Not many do anymore. Furthermore we are in the beginning stages of deflation although the government and many economists have yet to recognize it.

003 I am at a loss to see any redeeming reasons for permitting a destructive enterprize to tear up the landscape for minute amounts of gold. It will not add very many jobs, if any. It will not benefit the people who live there.

I urge you to do all in your power to kill this harmful and useless project.

Sincerely,
Paul C. Harmon

RESPONSE TO COMMENT LETTER J019 RECEIVED FROM PAUL C. HARMON, DATED FEBRUARY 9, 1998

Response to Comment J019:001: Comment noted.

Revisions to the Final EIS/EIR: None.

Response to Comment J019:002: Comment noted.

Revisions to the Final EIS/EIR: None.

Response to Comment J019:003: Comment noted.

Revisions to the Final EIS/EIR: None.

PAUL C. HARMON
824 BARRINGTON COURT
TRENTON, OHIO 45067
(513)988-0297

J020

Feb. 9, 1998

Imperial County Planning Dept.
939 Main St
El Centro, Ca 92243

Gentlemen:

001 It has come to my attention that an open pit heap leach gold mine may be permitted in eastern Imperial County. Having visited that area some years ago, I feel very strongly that this would be a huge mistake. Open pit mining is ugly, and would leave scars on the land for many years to come. Promises to restore the land are no remedy, even if kept and that is doubtful. Because of the outlook for gold prices, there is a better-than-even chance that the project will fail. Then what?

I am a retired chief economist for a major steel company, and I have seen what

PAUL C. HARMON
824 BARRINGTON COURT
TRENTON, OHIO 45067
(513)988-0297

open pit coal mining did to eastern Ohio. Once the mining company got the coal, they made some feeble efforts at restoration and moved on, leaving a moonscape. Even so it made a great deal more economic sense to extract coal than this project to extract gold from such low grade ore.

002 Years ago, gold was held by the central banks of industrialized as backing for their currencies. These reserves were measured, not in pounds or ounces, but in tons. However that is not the case anymore. Most are slowly selling of these huge stocks of gold which earn no interest and backing their currencies with U.S. dollars and interest-earning securities. Hence the price of gold has been falling for 2 decades. Also note that the turmoil in Asia and the IMF bailout of those countries makes no mention of gold.

With no demand for gold from central banks and no demand for coinage, the price of gold

(3)

PAUL C. HARMON
824 BARRINGTON COURT
TRENTON, OHIO 45067
(513)988-0297

depends almost entirely on jewelry. And there is obviously enough gold already above ground to meet that demand for decades to come.

People used to hoard gold for protection against inflation, but not many do anymore. Furthermore we are in the initial stages of deflation although government and many economists have yet to recognize it. Gold prices will continue down in that environment

003 I fail to see any redeeming features in this proposed project. It will not add jobs in any meaningful way. It will not benefit the people who live there. It will destroy the landscape.

I urge you to do all in your power to kill this harmful, useless project.

Sincerely
Paul C. Harmon

RESPONSE TO COMMENT LETTER J020 RECEIVED FROM PAUL C. HARMON, DATED FEBRUARY 9, 1998

Response to Comment J020:001: See Response to Comment J019:001.

Response to Comment J020:002: See Response to Comment J019:002.

Response to Comment J020:003: See Response to Comment J019:003.

J021

FRANCIS M. WHEAT
ROOM 4600
333 SOUTH GRAND AVENUE
LOS ANGELES, CALIFORNIA 90071

RECEIVED
BUREAU OF LAND MANAGEMENT
98 FEB 12 PM 2:48
CALIF. DESERT DISTRICT
RIVERSIDE, CA.

February 10, 1998

TO		INIT	DATE
	DM		
	ADM		
	DSR		
	EA		
	ADMIN		
	RC&W		
	P&RR		
	L&M		
	AMs		
X	RETURN TO CENTRAL FILES		

Mr. Tim Salt
District Manager,
Bureau of Land Management
6221 Box Springs Boulevard
Riverside, CA 92507

Mr. Douglas Romoli
Bureau of Land Management
1661 South 4th Street
El Centro, CA 92243

Mr. Jurg Heuberger
Planning Director
County of Imperial
939 Main Street
El Centro, CA 92243

Mr. John L. Morrison
Assistant Planning Director
County of Imperial
939 Main Street
El Centro, CA 92243

Dear Sirs,

001 My comments on the new DEIS for the Glamis Imperial mine are contained in a letter sent last November to the Deputy Secretary of Interior, which is attached and is incorporated herein by reference. The changes made by the new DEIS do not require any revision in these comments, excepting only that the BLM's own stated objectives for management of desert land in Visual Resources Class II (stated in the DEIS to be applicable to this mine site) would be wholly transgressed by the open pit and gigantic waste rock pile to be left behind under the BLM's proposed action.

The excuse, if any, for this disregard of the Agency's own policy is nowhere explained in the DEIS.

002 I would also add that the $700,000 bonding requirement is far too small. The backfilling of the two smaller pits is expressly part of the Reclamation Plan, and accordingly should be fully bonded. It is not.

003 To the authorities of the County of Imperial, I would respectfully address this additional comment: since under state law the County has the final decision as to the extent of mine reclamation to be required in its territory, I would hope that you would judge unacceptable a reclamation proposal which permits the most destructive aspects of the proposed mining -- the largest of the open pits -- to be unreclaimed, thereby leaving a landscape and visual resource largely ruined (no matter where one views the area) by a 30-story rock pile that could be eliminated by your requirement that not just two, but all pits be backfilled. This would leave

only the leach pads which could be rounded off far more easily to blend somewhat with the natural scene.

Permit me to express thanks to all of you for affording an extra month of time for review of the DEIS and for the courtesies you extended to all participants in the long hearing which took place on December 10 in La Mesa.

Sincerely,

Francis M. Wheat

FMW/jlp

LC980410.020/2+

FRANCIS M. WHEAT
333 SOUTH GRAND AVENUE
SUITE 4600
LOS ANGELES, CALIFORNIA 90071

November 5, 1997

Honorable John Garamendi
Deputy Secretary of Interior
Interior Department
1849 "C" Street NW
Washington, D.C. 20240

Dear John,

This is the summary you requested of the problems involved in the projected Glamis Imperial Gold Mine in Imperial County, California, in the southeastern part of the California Desert Conservation Area established by FLPMA. I'm grateful for the opportunity you provided to submit this summary to you and your colleagues.

004 1. The projected mine and its status. In November of last year the Bureau published its draft EIS ("DEIS") for the projected mine. The comment period was extended and an exceptionally large number of comments (over 400) were received, the great majority (I am informed) adverse to the project on numerous grounds. Some time after the comment period had expired, the BLM announced on July 30, 1997 that "owing to the large number of comments received" the DEIS was withdrawn and a revised DEIS would be circulated. This is presently anticipated. It is expected that there will be some changes but no major changes in the proposal.

005 The DEIS indicates that the applicant, a Canadian mining company called Glamis Gold, using a first or second tier subsidiary (originally "Chemgold," now "Glamis Imperial") will employ open-pit cyanide heap-leach using two or three open pits on a 1650-acre mine footprint. The smaller pit or pits are tentatively expected (not required) to be reclaimed (sequentially backfilled) but the largest pit, 4,700 feet by 2,700 feet across and 880 feet deep, is to be left unreclaimed without objection from the BLM; in fact, this was the BLM's "preferred alternative" in its original DEIS. Up to 450,000,000 tons of waste rock would be removed (most of it to waste rock piles expected to reach 400 feet in height) and 150,000,000 tons of ore would be processed.

006 2. The nature of the land area involved and its classification. The area of the mine footprint is classified under the BLM's Multiple Use Classification system as "L" (limited use) under the land management plan for the area (California Desert Plan). Under the Plan, this means "oriented toward giving priority to the protection of sensitive natural, scenic, ecological and cultural resources while placing limitations on other uses which may conflict with these values."

I have visited the site. The land is gently rolling and gradually rising, making complete pit backfilling entirely feasible; such backfilling, along with careful revegetation monitored over an appropriate time period, would alleviate the most critical anticipated degradation. Inevitably, a

small rock pile would remain because of the expansion factor. The view in all directions from the site is magnificent and reaches far to the southwest. The area is pristine, apart from modest disturbance caused by the mining company's tests and a single, unpaved road extending northeastward (across the footprint) over Indian Pass which lies a mile or so beyond the footprint in nearby mountains. No prior mining activity is visible in the immediate area and no other disturbances can be seen. The unpaved road (following a historic route) has long provided access for recreationists over Indian Pass to the nearby boundaries of two wilderness areas and the few miles beyond to the Colorado River; it has been included in the BLM's "National Scenic Byways Program," intended to increase public awareness of "scenic corridors off the beaten path."

The mine footprint and nearby areas are ancestral lands of the Quechan tribe of Indians, Native Americans of Yuman ancestry with a tribal enrollment of approximately 4,500. Their Fort Yuma reservation is less than fifteen miles south of the footprint as the crow flies. This is the second largest tribe of Native Americans in California. They (numbers of them have testified) consider the mine footprint religiously a sacred area. It is incredibly rich in cultural resources. An initial survey (and resurvey) of the mine footprint and auxiliary electrical transmission and pipeline corridors identified approximately 100 significant cultural sites, including chipping stations, prayer circles, vision quest sites, creation story geoglyphs, marker petroglyphs, and trails, including at least one major prehistoric (and visible) trail leading up to Indian Pass serving as a trade route to the Colorado River and beyond. The mine would destroy all of these and fundamentally alter the nature of the land. Archaeologist and retired professor J. Von Werlhof of Imperial Valley College, an expert on the Quechan culture and an archaeological consultant on the field work of the survey, commented in writing that

> the intensity of the resources reflects the utilization of the area for at least a 10,000 year period. It is also evident that the area has been utilized in recent time, indicating that it is part of the Quechan living culture.

He also noted that in the area "recorded cultural resources will exceed 2,000."

Apparently the mine operator is trying to find a way to pay for the Indians' support. I am informed this has occurred both orally and in writing (see the attached letter delivered to the Tribe's Cultural Committee, a copy of which I just received and which the Indians have asked to be made part of the public record).The Indians involved, I am informed, were insulted and angered by these overtures. They are desperate to try to prevent irreparable damage to their sacred ancestral land. It might be wise to consider having someone from the Department, other than an employee of the BLM's El Centro Resource Area, meet with Indian representatives, check what I have reported to you, and assess their concerns directly.

007 3. The legal issue under FLPMA Section 1732(b). This section states without qualification that "the Secretary shall, by regulation or otherwise, take any action necessary to prevent unnecessary or undue degradation of the lands." The identical mandate to the Secretary is

repeated in § 1782(c) with the added words "or to afford environmental protection." The foregoing mandate (in both iterations) is expressly excepted from language (in § 1732(b)) stating that FLPMA shall not amend the 1872 Mining Law or impair the rights of mining claimants. Quite obviously, it was contemplated that actions by the Secretary necessary under § 1732(b) or § 1782(c) could impair the rights of mining claimants.

What is "unnecessary or undue degradation"? It is basically defined in § 3809.0-5(k) of the BLM's "3809 Regulations" to mean disturbance of the land surface greater than would normally result from mining "done by a prudent operator in usual, customary and proficient operations of similar character."

That could perhaps be a logical way to define "unnecessary degradation," i.e., degradation not needed by a proficient miner to develop a given kind of mine, whether open-pit or underground. But it fails to note the critical distinction, repeated by precise language in another part of the statute, between "unnecessary degradation: and "undue degradation." "Undue degradation" is, on its face, a different concept. This was obvious even to the American Mining Congress which defined "unnecessary" as "that which is not necessary for mining" and (in contrast) "undue" as "that which is excessive, improper, immoderate or unwarranted," (quoted from the amicus brief of the AMC in State of Utah v Andrus 486 F.Supp 995, 1005 (D.C. Utah 1979)). The dictionary definitions of "undue" are similar; the words "inappropriate: and "unwarranted" are frequently mentioned as synonyms.

Unfortunately, the basic definition in § 3809.0-5(f) does not rationally define "undue degradation"; in fact, its application would tend to prevent a rational judgment on that issue. For example, suppose several progressive mining companies undertook the expense of a new process to minimize degradation of the land where their mines are situated. The majority of other mining operators reject the new process because of its added expense. No one could say, however, they are not prudent and proficient in doing so (their operating profit will be greater) or that the way they operate without the new process is not usual and customary, even though it results in significantly greater degradation. The key words in the definition, underscored above, have little or nothing to do with whether mining without the new process might be judged inappropriate or unwarranted. In fact, the definition tends to tie the BLM's hands when it comes to making such a judgment.

It might be urged that a subsidiary phrase attached to the definition, "taking into consideration other resources and land uses," makes possible rational application of the definition. This cannot be true since the definition, in its entirety, is fatally flawed by its total neglect to deal rationally with "undue degradation."

The overriding issue that needs to be dealt with is: when should degradation of land from an unreclaimed open-pit mine be regarded as "inappropriate" or "unwarranted"? There would seem to be five matters deserving thoughtful consideration in answering that question.

First, is the metal or mineral to be extracted essential to the country's needs? If it were strategic, in short supply, and obtainable at acceptable cost only by open-pit mining without full reclamation, such degradation might not be unwarranted or inappropriate. But gold is none of these. It does not appear on the government's list of strategic metals and minerals, plentiful amounts are available for industrial needs (in fact, the great bulk of gold mined in the U.S. which is not exported or stockpiled goes into the manufacture of jewelry) and it is in no sense in short supply. Fort Knox and other US bullion stockpiles contain gold reserves estimated at 25 times the present total annual production of gold in this country.

Second, "inappropriate or unwarranted degradation " could also refer to unreclaimed environmental degradation which conflicts with the wishes and desires of the public who are the true owners of the public lands. All of the independent polls taken during the development of the California Desert Plan showed that large public majorities wanted greater protection of the desert environment and (in express terms) not more mining.

Third, an unreclaimed pit on land already degraded by past open pit mining activity during a time when few standards were being applied to such mining, might not be deemed "inappropriate." By contrast, to leave a great, unreclaimed scar on a pristine area of the public lands would seem unwarranted or inappropriate, absent some indisputable reason for doing so.

Under this test, "inappropriate or unwarranted degradation" is site sensitive; the same action might be "inappropriate degradation" in one location but not in another. To illustrate, an expanded open pit (referred to as the "Baltic" project) was recently authorized by the BLM in the midst of the California's Rand Mining District (near the old mining town of Randsburg) on a location already thoroughly torn up by three or more older, unreclaimed open pits and much other historic mining activity lasting almost a century. It could well be argued that failing to backfill the expanded pit areas after the ore body was exhausted would not cause "inappropriate degradation" of this particular land since it would have no serious, adverse impact on scenic, scientific or environmental values, the existing visual resource, and only slight impact on wildlife habitat and native vegetation.

Fourth, of what importance are the cultural and archaeological values of the particular parcel of land? Are they sufficiently significant alone, or in combination with the other considerations noted above, to conclude that it is "inappropriate or unwarranted" to destroy those values?

Fifth, analyzing the immense quantities of water required for the open-pit process, does the available scientific evidence create in this instance an inappropriate and dangerous reduction in the available resources of the ground water basin, or an unwarranted risk of poisoning underground water resources "downstream" from the mine?

I do not hazard any judgment on the fifth point, which involves a knowledgeable weighing of the evidence submitted pro and con. As to the other four points, I would respectfully submit that both individually and certainly in combination, they make a very strong case for a determination that leaving behind an unreclaimed open pit would degrade this particular land to an undue, unwarranted and inappropriate extent, and the Department -- acting through the Bureau -- is under a legal duty to prevent it.

As noted above, § 3809.0-5(k) of the regulations contains a definition which might rationally apply to "unnecessary degradation" but is not rationally applicable to "undue degradation." How is the Department to reach a decision which would be based on rational analysis of "undue degradation," as applied to this proposed mine site? The statute (in the first sentence of FLPMA's § 1932(b)) expressly requires the Secretary to manage the public lands placed under the BLM through means which include "published rules and regulations" but also include practically all other processes which might be needed, including any "instruments the Secretary deems appropriate." Also, the mandate of § 1732(b), as repeated in § 1782(c), provides that the Secretary shall "by regulation or otherwise," take whatever action "is required to prevent undue degradation or "to afford environmental protection."

Clearly, the Secretary's action or discretion is not limited by whatever deficiencies may exist in the BLM's rules, or its past practice under those rules.

008 4. The legal issue under FLPMA § 1781. This section was added to FLPMA specifically to spell out protections to be afforded the sensitive public lands of the CDCA -- it does not apply to any other part of the public lands. And under § 1732(b) the entire section represents an amendment to the 1872 Mining Law. The critical subsection 1781(f) reads in part:

> All mining claims located on public lands within the CDCA shall be subject to such reasonable regulations as the Secretary may prescribe to effectuate the purposes of this section. Such regulations shall provide [reasonable measures] to protect the scenic, scientific and environmental values [of land in the CDCA] against undue impairment . . . .

Also, if it is not readily apparent from other provisions of FLPMA, subsection 1781(d) places mineral development and maintenance of environmental quality on a par with each other as objectives of the projected Desert Plan. It reads, in part:

> [The Plan] shall take into account the principles of multiple use and sustained yield in providing for resource use and development including, but not limited to, maintenance of environment quality, rights of way and mineral development . . . .

Finally, subsection 1781(b) places "the maintenance of environmental quality" on a par with "multiple use and sustained yield."

Under the clear and consistent statutory language, would seem unjustified for the BLM to continue to maintain -- at least in the California desert -- its old policy of favoring mining interests when these conflict with protection of the other valuable resources of the desert lands, among them scenic, scientific, wildlife, plant life, historical, cultural, archaeological, air and water resources.

Strangely, (despite the fact that § 1781 contemplated they would be adopted) the BLM determined not to prepare any regulations under § 1781. It did state, in the last sentence of its definition of "unnecessary or undue degradation" (§ 3809.0-5(k)) that:

> where specific statutory authority requires the attainment of a stated level of protection or reclamation, such as the California Desert Conservation Area, Wild and Scenic Rivers, areas designated as part of the National Wilderness System administered by the BLM and other such areas, that level of protection shall be met.

Under FLPMA, "that level of protection" for the CDCA was clearly intended to be articulated by regulations duly adopted, which necessarily would need to define the meaning of "undue impairment" as it relates to the specific resource values referred to. There is no such definition in the regulations.

Why did the BLM not adopt the contemplated regulations? Its public release accompanying its § 3809 regulations (45 FR 78,902 at 78,909, Nov. 26, 1980) merely observes that the rules it did adopt "include provisions that will afford the area (of the CDCA) adequate protection."

This is simply not the case. There is only one provision in the rules the BLM did adopt which might, although very indirectly, relate to a specific, "stated the level of protection or reclamation" for the CDCA, as referred to by the rule quoted above. It is in § 3809.1-4 which states that an approved plan of operations (not the quite detailed notice requirement otherwise applicable in most cases) shall be obtained prior to commencing mining operations on CDCA lands designated "controlled" or "limited" (not on other CDCA lands) when the disturbance area is less than five acres. Public lands in every state which disturb more than five acres require an approved plan of operations; obviously, any open-pit gold mine, no matter where located, would require one. The provision in question relates solely to a procedural step, and in no way to any substantive standard of protection.

It would seem clear that in order to comply with the provisions of FLPMA in dealing with a mine proposal in the CDCA, the Department must (in the absence of substantive BLM regulations setting any applicable standards of protection), establish for this site in the CDCA the "stated level of protection" required for the specified scenic, scientific and environmental values in order to insure that those resources will not be subjected to "undue [i.e., inappropriate or

unwarranted] impairment." Surely that "stated level of protection" should be consistent with the BLM's own expressed purpose for Class "L" land, viz., protection of "sensitive natural, scenic, ecological and cultural resources."

Once again, let me say how much I appreciated your courtesy and that of your colleagues in the Department, in meeting with me on this rather complex subject matter. Siting and reclamation standards for gigantic open-pit gold mines in California (and particularly in the California desert) deserve more careful attention from the BLM than they have as yet received, in view of the truly immense damage that may otherwise occur as a result of this project and others in the future.

Sincerely,

Francis M. Wheat

FMW/jlp

cc: Ms. Peggy Olwell
Mr. Tom Fry

LC973020.088/10-

RESPONSE TO COMMENT LETTER J021 RECEIVED FROM FRANCIS M. WHEAT, DATED FEBRUARY 10, 1998

Response to Comment J021:001: See Responses to Comments I005:018 and I013:383.

Response to Comment J021:002: See Response to Comment I002:010.

Response to Comment J021:003: See Response to Comment I005:010.

Response to Comment J021:004: Comment author is correct. The revised Draft EIS/EIR was completed in November 1997 with revised analysis. However, the Project proponent, Glamis Imperial, made numerous changes to their original Plan of Operations to address some of the visual and cultural concerns identified after the original Draft EIS/EIR was released.

Revisions to the Final EIS/EIR: None.

Response to Comment J021:005: Comment author is correct that the Proposed Action does not include backfilling the largest pit. However, the Proposed Action does include reclamation as described in the Reclamation Plan and provided in the Draft EIS/EIR as Appendix A.

Revisions to the Final EIS/EIR: None.

Response to Comment J021:006: See Responses to General Comment 002 and Comments A001:005 and I010:002.

Response to Comment J021:007: See Response to Comment I010:002.

Response to Comment J021:008: See Response to Comment I010:002.

February 20, 1998

J022

Douglas Romoli
Bureau of Land Management
1661 South 4th Street
El Centro, CA 92243

Dear Mr. Romoli:

001 This letter is in response to the Draft Environmental Impact Statement/Environmental Impact Report DEIS/EIR dated November 1997. I urge you to choose the "No Action Alternative" as the only reasonable course of action regarding this ill-conceived project.

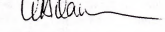
I am resubmitting the comments submitted in my letter to Mr Keith Shone of the BLM dated December 29, 1996 in response to the DEIS/EIR of November 1996. My resubmission of these comments is appropriate because those comments were not included in the 1997 version of the DEIS/EIR and I do not believe my concerns were addressed in the 1997 version. Is fact, none of the hundreds of comment letters sent to the BLM in response to the November 1996 DEIS/EIR were included in the 1997 version. This is an outrageous and blatant disregard of the public comment process. I respectfully request that the BLM and the County of Imperial withdraw the current DEIS/EIR and recirculate a new version that includes copies of each of the comment letters received on the 1996 version and that addresses the concerns of each of those letters.

In addition to resubmitting my comment letter of December 29, 1996 (Exhibit A), I have the following comments regarding the proposed project:

002 While the bulk of this document remains essentially the same as the 1996 version - with a few cosmetic changes to mitigation measures and proposed alternatives - a new cultural resources survey was done. It is clear from this new survey that the proposed project would destroy the cultural and spiritual value of these lands which are sacred to the Quechan Indians and other Colorado River Tribes. What remains unclear to me is why this project is even being considered. There is no shortage of gold or silver in the United States or in the world. There is no sane or rational reason for the BLM to allow a Canadian corporation (or any corporation) to pillage and destroy America's public lands at the American taxpayers' expense. This precious and fragile desert wilderness must be preserved for future generations, and once again, I urge you to choose the "No Action Alternative".

Thank you for your consideration of my comments. Please keep me informed of all future action regarding this project.

Sincerely,



Lissa Adams
1717 Kettner Blvd., #100
San Diego, CA 92101
(619) 235-0281

EXHIBIT A

December 29, 1996

Keith Shone
Bureau of Land Management
1661 South 4th Street
El Centro, CA 92243

Dear Mr. Shone:

003 This letter is in response to the proposed Imperial Project Draft EIS/EIR dated November 1996. As a citizen who spends time hiking and camping on the public lands where the proposed mining project would be located, I have many questions and concerns regarding the Imperial Project. After carefully reviewing the Draft EIS/EIR, I believe the "No Action Alternative" is the only reasonable course of action for the following reasons.

004 First, no compelling need has been established for the Project. In fact, other than to "meet the prevailing market demand for gold and silver", no need was stated in the Draft EIS/EIR. It is unclear from reading the Draft EIS/EIR just what the "prevailing market demand for gold and silver" is.

005 Second, the Project would be located within the California Desert Conservation Area, which has been identified as a unique area in need of special management by the BLM. All of the Project area would be located within the multiple use Class L - Limited Use category which is oriented towards giving priority protection to sensitive natural, scenic, ecological and cultural resources while placing limitations on other uses that may conflict with or degrade these values. Clearly, the proposed Project would degrade these resources and is not consistent with protecting sensitive natural habitat.

006 Third, the Draft EIS/EIR states that the Proposed Action would result in a visual contrast with the surrounding area and would change the existing character of the landscape. The Draft EIS/EIR further states that based upon BLM objectives for Class II visual resource areas, the mitigated effects of the Project on visual resources would remain significant. I recently visited the proposed site and spent several days hiking to surrounding hilltops to get an idea of the visual impact of the proposed Project. The proposed mining pits and waste rock stockpiles of up to 400 feet high would clearly violate the Class II objectives of retaining the existing character of the landscape and would certainly attract the attention of even the most casual observer.

007 Fourth, much of the existing vegetation in the proposed Project area would be destroyed. Even though the Draft EIS/EIR proposes revegetation of the Project area once mining operations are finished, in reality this does not seem possible. Given the fragile nature of the existing vegetation and the harshness of the desert environment, it would be decades before any revegetation efforts began to take hold. In addition, at least 100 acres of fragile microphyll woodland sensitive habitat would be destroyed and it is highly unlikely that this habitat could ever be revegetated.

While the Draft EIS/EIR proposes that specimens of selected plant species and seeds be salvaged for later revegetation efforts, in reality this is probably not feasible. I have questions about how this salvage operation would take place. Many of the plants are spiny and difficult to handle (ocotillo, cactus, acacia) and others would be too large (I observed palo verde trees as much as 30'-35' high). Where would the plants be kept for the 20 years the proposed mine is expected to operate? How long are seed specimens viable? If washes are permanently diverted, where will the salvaged plants and seeds be replanted? How will the incredible diversity of existing plant life be maintained?

008 Fifth, the proposed Project is located very near to the Desert Tortoise Critical Habitat. The Draft EIS/EIR states that a significant number of tortoises currently occupy the proposed Project Area, and further that the Proposed Action would result in the loss of up to 57 (for the sake of argument I'll assume this is accurate, although it is probably a low estimate) desert tortoises, which are a federal and state listed threatened species. While the mitigation measures to minimize the impact on desert tortoises seem admirable on paper, the reality is that the proposed Project will significantly impact this species. In addition to the desert tortoise, many other species of animals will be impacted. Even though none of the other species is listed as threatened or endangered, the fact remains that proposed Project will result in a loss of habitat for a variety of animal life.

009 Sixth, the proposed Project would destroy a variety of cultural resources in the form of archeological sites. These sites include prehistoric trail segments, chipping stations, rock rings and geoglyphs to name a few. I spent several days wandering randomly around the proposed Project area and found numerous chipping stations, milling sites, rock rings and cleared circles. Most of these sites would be lost during the Proposed mining operations. Even though some of these sites may not meet the criteria for eligibility for National Register of Historic Places, they are nonetheless important cultural resources and their destruction would significantly alter the character of the environment.

010 Seventh, the proposed Project would impede current recreational use of public lands. The Draft EIS/EIR states that the entire Project mine and process area would be fenced and closed to the public. Further, the Draft EIS/EIR states that Project noise and operations would be expected to discourage recreational activities in the immediate vicinity of the Project. In addition, areas in the immediate vicinity of the Project would be affected by emissions of air pollutants, visibility of the mine, noise generated by mine operations and Project-related traffic. Finally, open pits could create a potential hazard to the public after mine operations were complete.

011 Eighth, the Draft EIS/EIR proposes several temporary and permanent surface flow diversions. The loss of microphyll woodland habitat and vegetation in these diverted "washes" will be permanent. The Draft EIS/EIR proposes reestablishment of microphyll woodland habitat similar to that destroyed by the diversion of original stream channels, but in reality this is not feasible. In several of washes where proposed diversion would take place I observed vegetation that has been growing for hundreds of years. This included palo verde trees up to 30' high, large ironwood and

mesquite trees as well as a variety of large, healthy shrubs and grasses. While the mitigation efforts sound impressive on paper, I don't believe it is possible to revegetate these washes and return them in any way to their original health and diversity.

012 Finally, the Draft EIS/EIR states that the projected period before natural conditions return to an approximate pre-Project status is expected to exceed several decades following completion of the Project. I believe this to be an optimistic assessment in terms of time. As I have stated before, this desert environment is harsh and the biological resources are very fragile. Much of the environment will probably never return to pre-Project status. The Draft EIS/EIR further states that the topography of the Project mine and process area would be permanently altered by the waste rock stockpiles, heap, and open East Pit and Singer Pit. This would irreversibly alter the visual character of the Project mine and process area.

013 For the above stated reasons, I believe the Proposed Imperial Project is an unwise use of public lands and the only viable course of action is the "No Action Alternative" proposed in the Draft EIS/EIR. This fragile and scenic desert area is more valuable to the public preserved in its natural state. There is an incredible diversity of plant, animal and cultural resources that would be forever lost if the Proposed Project were allowed on these public lands.

Thank you for your time and consideration of these comments. I would appreciate being informed of future actions regarding this proposed Project.

Sincerely,

Lissa L. Adams
1717 Kettner Boulevard #100
San Diego, CA 92101
(619) 235-0281

RESPONSE TO COMMENT LETTER J022 RECEIVED FROM LISSA ADAMS, DATED FEBRUARY 20, 1998

Response to Comment J022:001: See Response to Comment I013:004.

Response to Comment J022:002: See Response to Comment J022:004.

Response to Comment J022:003: See Response to General Comment 001.

Response to Comment J022:004: (The Following Response is Also Applicable to Comments J012:002 and J022:002.)

Section 1.7. (page 1-16) of the Draft EIS/EIR provides the purpose and objectives of the Proposed Action. "Meeting the prevailing market demand for gold and silver" is not one of the objectives. Although there are no current shortages of gold or silver, there is a market for these minerals.

Revisions to the Final EIS/EIR: None.

Response to Comment J022:005: See Response to Comment I010:002.

Response to Comment J022:006: See Responses to Comments I005:018 and I013:383.

Response to Comment J022:007: See Responses to Comments E002:020, E002:022 and E002:024.

Response to Comment J022:008: See Response to Comment A001:008.

Response to Comment J022:009: See Response to Comment A001:005.

Response to Comment J022:010: See Response to General Comment 002.

Response to Comment J022:011: See Response to Comment E002:020.

Response to Comment J022:012: See Responses to General Comment 002 and Comments I005:018, I013:383 and I013:451.

Response to Comment J022:013: See Response to General Comment 002.

Bureau of Land Management
1661 South 4th Street
El Centro, California

J023

23 February 1998

RE: Public Comment on the Imperial Project EIS/EIR
ATT: Douglas Romoli

Sir,

001 Before I make the comment on the Imperial Project, I want to comment on the public hearing held in La Mesa on 10 December 1997. I have never in my 54 years been in the company of so many rude, arrogant and discourteous people before. The acid comments directed at government representatives, the huge job they had completed in the Draft EIS/EIR, miners and mining companies in general and Glamis Gold in particular, were inexcusable. Some environmentalists giving testimony were greatly Uninformed about the 1872 Mining Law, others had no comprehension about the general mining site and spoke through ignorance, while a few gave a total airhead presentation against the mine, a few others were very well informed and either challenged specific items or gave telling testimony.

Environmentalists have rejected the massive effort that the Draft EIS/EIR represents. Their game isn't to approve of the mine or any mitigations worked out by the unending laws, rules, and regulations that the same environmentalists have imposed on mining projects, they will settle for no less than the No Action Alternative, in effect rejecting the long process to enable mining to exist with environmental concerns. Their objective is to stop mining anywhere by whatever means they can, even in desolate locations like the Imperial Project.

During the break I walked over to the photos of the mine site and asked a young Indian girl and Paul Slaton (Slayton?), who later spoke against the mine, if the area in the photo had been mined. The area in the photo was very barren, no plants stood out on the rocky exposed dirt. He said he thought so. Having prospected several miles to the east of the mine, I knew what the area looked like, so I explained to Paul and the young girl that's the way the area is prior to mining, barren and almost without ground cover, like many old mining dumps. In his testimony against the mine, I believe he talked about a sustainable renewable resource, but what would that be, a lizard farm?

The mine site is particularly suited to a large open pit mine. The area is unusually ugly with little redeeming surface value either as habitat or any potential recreational use that couldn't be found in any other of the 25 million acres of the Mohave Desert. The cumulative bio-mass covering the mine site is extremely low and typical for the sun-scorched earth of the Colorado River basin where the summertime temperatures are consistently the national highs. This isn't Yellowstone folks, but you would think so by the testimony of the environmentalists.

002 While a lot of "noise" has been generated about the cultural sites and their relevance to several local Indian tribes, I can't help but question what activities have occurred during the last eighty years.

There's one reference to a single observance in the 1940s, but this can hardly support the claim to the existence of a religion, one that had generations live and grow up without the benefit of the their verbal traditions. For the last fifty years they had been forgotten and ignored, but now with a proposed mine in part of their extensive religious area, the Indians all of a sudden want to re-establish their religious sites and traditions. The mine site isn't within the Muggins Peak (20 miles east of Yuma, AZ), Picacho Peak (36 miles away), Pilot Knob (12 miles from Picacho) triangle of 216 miles, but a full six miles outside of this "religious" area of critical concern. How much of the region will they be able to claim as a religious site?

The mine is situated in the Indian Pass-Running Man ATCC, but a mining company would be hard pressed to find an area to mine that wouldn't offend one of the local tribes or American Indians in general because of their beliefs. As one pretty Lakota woman testified, "Please don't rape and kill Mother Earth," illustrating perfectly well the great purported cultural differences between American Indians and American society, but most American Indians have embraced our religions and our lifestyle, so how do they justify the claims of losing their religious heritage when few if any practice it?

I don't enjoy slamming American Indians but maybe its time for someone to point out to them the inconsistencies of their position. They claim two religions, one they live like most Americans, the other is the religion of their ancestors, a religion that's better suited to small primitive, nomadic societies which were dependent on nature to provide a living. But now they want to use this long-ignored religion to dictate what can or cannot happen in their enormous religious areas which is all of the Earth. Are they Christians or do they worship the nature and magic of their great-grandfathers?

The Quechan Tribe is well assimilated into American culture, they are not poor and could have devoted some part of their funds to document their tribal history with maps, photos, classes and tours, but now they want the mining company to do it all for them despite no interest by the tribe about their cultural history for the last fifty years. I don't believe the project should be delayed so the Quechan can start studies that they have demonstrated little or no interest in for several generations which may contribute to their inability to define more exactly the boundaries of the Indian Pass-Running Man ATCC. In other words, these Indians had the resources to establish historic studies themselves but chose not to do so, I don't see why others should have to do it for them now or delay their project for it.

003 Glamis Imperial has made numerous changes to their original plan to accommodate visual and archaeological concerns brought out after the first EIS/EIR at a years delay and great expense. The only real option open to them is to proceed for the full development of the project, the Proposed Action, as any alternatives do not provide the depth of ore reserves or high ore grade to do the mining and environmental require-

ments and make a profit, too. As the BLM recognized, the only option is the Proposed Action if the mine is to be developed, and there isn't a logical reason to deny it in this barren, forgotten wasteland.

004 Sacrificing these 1600 acres will provide muti-levels of employment in Imperial County and around the country. Jobs are a constant call for projects like this in rural areas, something the city folks dismiss as unimportant but when rural counties like Imperial County have over 19% unemployment for the total work force, like they did in 1994, big projects like the Imperial Project are more than welcome. The Imperial Project is big, it's over half a billion dollars in planning, mining and reclamation costs spread out over about fifty years. At the public hearing one of the environmentalists called out, "there's enough mines in the area." Just maybe it's a mineralized area.

005 It's time to put the studies aside, as one environmental lawyer wrote in "Environmental Law and Policy," by Plater, "their tactical implementation...requiring so much administrative procedure and reporting that it appears really to be seeking not answers, but 'paralysis by analysis.'" Enough paralysis and hoops, it's showtime, let the mining begin and pass the final approvals.

Sincerely,

Dave English

Dave English
1827 Portofino Drive
Oceanside, CA 92054-6129
760-433-5015
prospector@sd.znet.com

RESPONSE TO COMMENT LETTER J023 RECEIVED FROM DAVE ENGLISH, DATED FEBRUARY 23, 1998

Response to Comment J023:001: See Response to General Comment 001.

Response to Comment J023:002: (The Following Response is Also Applicable to Comment I017:007.) The lack of use of the cultural resources on the Project area since the 1940s is mentioned in Section 3.6.2.2. (page 3-85) and Section 4.1.13.2. (page 4-126) of the Draft EIS/EIR, and the ten mile distance to the nearest point on the Fort Yuma Indian Reservation is also mentioned in Section 4.1.13.2. (page 4-126) of the Draft EIS/EIR. However, neither the lack of use of the cultural resources on the Project area, nor the distance between the Project area and the reservation minimizes the religious and cultural values placed upon sites in the Project area by the Quechan. The Draft EIS/EIR discusses in depth in Section 3.6. and Section 4.1.6. (and in Appendix L to the Draft EIS/EIR) the cultural resources identified within the Project area, their meaning to the Quechan tribe, and the probable effects of the Project on these resources and the Quechan's culture and religion.

Revisions to the Final EIS/EIR: None.

Response to Comment J023:003: Comment noted. The Alternatives to the Proposed Action are described on pages 2-51 through 2-65 of the Draft EIS/EIR.

Revisions to the Final EIS/EIR: None.

Response to Comment J023:004: Comment noted. The employment and related socioeconomic benefits of the Proposed Action are described on pages 4-110 and 4-111 of the Draft EIS/EIR.

Revisions to the Final EIS/EIR: None.

Response to Comment J023:005: See Response to General Comment 001.

ERNEST TRIGG
1484 S. 42ND AVE
YUMA ARIZ
85364

FEB 24th 1998

J024

Dear Mr Romeli

Thank you for the opportunity to comment on the Draft EIS/EIR the proposed Glamis mine project.

001 I have read with amazed but not surprised the various comments by the members of the Quechan Tribe member in the Yuma and L.A. Times. These negative comments and such in regards to the proposed mine I would like to ask these Yuma members if they are so worried about the sacred grounds which is not reservation. I wonder if their "Gold Mine" the new Paradise Casino and Bingo hall with the steady stream of traffic 24 hours a day. Also driving into Yuma especially at night. The numerous large lighted bill boards that are on the reservation and the edge of the Highway 8 which advertise the Casino and every other business in Yuma. Talk about a disgusting eye sore. When they talk of their sacred religion and spirits I wonder how they would

explain this to their long gone ancestors.

002 Regards to the mining operations. How many people are aware that the Quechans have just recently conducted exploratory drilling for gold reserves within their sacred reservation boundaries. For a complete analysis this discussion belongs in 3.6 of the DEIS/EIR and their was exploration around Pilot Knob too. What would the Quechans have done with the ore body if found and was profitable. The same thing the Navajo have been doing with the Uranium and Coal deposits. and many other tribes with proven ore reserves without this Quechan exploration reports known to the readers. People are left with a very incomplete picture

003 I have been in the mining industry for 35 years. It provides a lot of jobs and benefits to everyone. For a small segment of people with some land excuse to not give a Company the opportunity to proceed is disgusting

Thank you

Ernest Tracy

RESPONSE TO COMMENT LETTER J024 RECEIVED FROM ERNEST TRIGG, DATED FEBRUARY 24, 1998

Response to Comment J024:001: See Response to Comment J015:001.

Response to Comment J024:002: See Response to Comment J008:005.

Response to Comment J024:003: See Response to Comment J008:005.

UNIVERSITY OF CALIFORNIA, SAN DIEGO

BERKELEY • DAVIS • IRVINE • LOS ANGELES • RIVERSIDE • SAN DIEGO • SAN FRANCISCO



SANTA BARBARA • SANTA CRUZ

SCRIPPS INSTITUTION OF OCEANOGRAPHY

9500 GILMAN DRIVE
LA JOLLA, CALIFORNIA 92093-0205
email: jahildebrand@ucsd.edu
phone: (619) 534-4069

February 25, 1998

Douglas Romoli
Bureau of Land Management
1661 South Fourth St.
El Centro, CA 92243

J025

Dear Mr. Romoli:

001 I write to comment on the Environmental Impact Statement/Environmental Impact Report State Clearinghouse No. 95041025 of November 1997, Imperial Project, Imperial County, California. In particular I comment on the cultural resources of the project area and the report's "Appendix L: Where Trails Cross: Cultural Resource Inventory and Evaluation for the Imperial Project, Imperial County California." I am a member of the Society for American Archaeology and the Society for California Archaeology, as well as being a Professor at the University of California San Diego -- Scripps Institution of Oceanography. I have conducted research and published on southern California Prehistory for more than two decades.

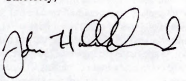
002 I strongly urge that "No Action" is the appropriate alternative BLM should adopt for the Imperial Project. As Appendix L amply demonstrates, the proposed Project area and adjacent impact areas contain key archaeological features and artifacts relevant for understanding and preserving a significant body of cultural history. It is not possible to adequately mitigate the impact of the Imperial project on the cultural resource of the Indian Pass region. The nature of this area is that thousands of years of cultural material are at or near the ground surface, embedded in a desert pavement matrix. Clearly, the impacts to cultural resources within the mine and processing area cannot be adequately mitigated. Likewise, putting a fence around the mine Project and process area and concluding that no impacts will occur outside the fence is fallacious. Having this level of large scale activity adjacent to exposed archaeological features -- such as the Running Man/Intersection Mesa site (CA-IMP-2727) -- is tantamount to inviting their destruction. The mitigation measures mentioned in the EIR are but a small step in the right direction, but they are inadequate to compensation for the significant loss of archaeological resources that this project will bring about.

003 The prehistoric cultural resources of this region cover an extremely long time period, greater than 12,000 years. A unique aspect of these resources is that they are largely exposed at the ground surface, embedded in a desert pavement. The scientific community has only begun to understand how these materials can be adequately studied. To understand them requires accurate dating, but many of the typical dating approaches are not applicable to these sites. The precise context of how they are welded into the desert pavement and the geochemical signature on the surface of the artifacts and surrounding matrix may allow for their dating or at least placement into a stratigraphic sequence. Removing these materials from their context destroys much of their value. To address this problem recent advances have been made in dating the weathering of these

desert surfaces, yet these techniques are just in their infancy and are therefore under development. These techniques are often applied to a geological surface, which cannot be collected as an individual artifact. Of particular concern in the project area are the cleared circles, and trails -- even though they do not contain artifacts. They may be key to understanding the occupation of much of the desert regions during the earliest time periods and should be preserved for future study. Of additional concern are the numerous stone tools of significant antiquity that are found in the Project area. Appendix L describes CA-IMP-4970 as having, "A total of 95 early tools and several tool scatters were recorded within the site. This probably represents only a third of the early tools within the area because recording of this category was halted during the survey of this site due to the abundance of this tool type." Saying that there were too many stone tools to record reinforces the idea that the Project area is indeed of archaeological significance, but also suggests that an adequate job has not yet been done in assessing their significance.

004 This region as a whole and the Imperial project area in specific is a significant source of information on the prehistoric occupation of the southern California interior, with an exceptional collection of materials of great antiquity. This is the region where archaeological studies of the California desert interior were initiated by Malcolm Rogers. He documented early occupation of this region and pioneered techniques for determining stratigraphic relationships on surface features and artifacts, such as for the crossing trails on Intersection Mesa (CA-IMP-2727). North American prehistoric materials dating to more than 7,000 years, Palaeoindian and Early Man periods, are scarce and deserve special consideration for preservation. The "No Action" alternative should be taken on the Imperial Project to preserve these cultural resources.

Sincerely,



John Hildebrand
Professor

RESPONSE TO COMMENT LETTER J025 RECEIVED FROM JOHN HILDEBRAND, DATED FEBRUARY 25, 1998

Response to Comment J025:001: See Response to Comment I012:001.

Response to Comment J025:002: See Response to Comment I012:001.

Response to Comment J025:003: See Responses to Comments I012:001, I012:044 and I013:326.

Response to Comment J025:004: See Response to Comment I012:001 and I012:044.

Claudia Burton

385 Forest Hills Way N.W.
Salem, Oregon 97304
March 8, 1998

J026

Bureau of Land Management
1661 South 4th Street
El Centro, CA 92243
Attn: Doug Romoli

Re: Glamis Imperial Project (open-pit cyanide heap leach gold mine proposed for Imperial County)

Dear People:

001 I've recently learned of the open-pit gold mine proposed for Imperial County. From what I have read of the proposal, it sounds like a travesty!

002 Others will speak of the environmental and economic drawbacks of the proposal — I'd like to focus on the impact of the proposal on Native American religious and cultural interests. I teach Constitutional Law to law students. In one of my classes, we just finished considering the Religion Clauses in the United States Constitution. Granted it is clear, under *Lyng v. Northwest Cemetery Protective Ass'n,* 485 U.S. 439 (1988), that the BLM is not *required* to disapprove this proposed gold mine because of its strong impact upon the religious concerns of the Quechan Nation. However, clearly it is *permitted* for government to accommodate the constitutional Free Exercise interests of all Americans, including Native Americans, *Corporation of Presiding Bishop of Church of Jesus Christ of Latter-Day Saints v. Amos*, 483 U.S. 327 (1987) and *Employment Division v. Smith*. 110 S.Ct. 1595 (1990).

003 For many Native Americans, practice of their religion is tied to specific geographical areas, and I understand that this is the case for the area that would be devastated by the proposed open-pit mine. When the economic value of the mine is so slight (possibly even negative, given the current price of gold on the world markets), it seems unjust and unwise to destroy an area of such religious, cultural, historic, and archeological significance. I urge you to disapprove the proposed mine.

Very truly yours,

Claudia Burton

cc: Senator Barbara Boxer

RESPONSE TO COMMENT LETTER J026 RECEIVED FROM CLAUDIA BURTON, DATED MARCH 8, 1998

Response to Comment J026:001: See Response to General Comment 001.

Response to Comment J026:002: See Response to Comment D002:005.

Response to Comment J026:003: See Response to General Comment 001.

Claudia Burton

385 Forest Hills Way N.W.
Salem, Oregon 97304
March 8, 1998

Imperial County Planning Department
939 Main Street
El Centro, CA 92243
Attn: John L. Morrison

J027

Re: Glamis Imperial Project (open-pit cyanide heap leach gold mine proposed for Imperial County)

Dear People:

001 Even though I am not a resident of Imperial County, I am writing to you to urge you to deny a Conditional Use Permit for the water wells that will be needed to pump water for the mine operations for the proposed Glamis Imperial gold mine.

002 Others have focused on the environmental law and water supply aspects of this project. My comments are directed to the interests of the Quechan Nation. For nearly 25 years I have taught Constitutional Law to law students. I also teach courses in Real Property (and have taught the course in Land Use Planning in the past). To read the cases involving Native Americans in my Constitutional Law and Property courses is, as they say, to 'read it and weep.' In one of my Constitutional Law classes, we have just finished the study of the Religion Clauses in the United States Constitution. Though current United States Supreme Court constitutional cases do not *require* government to consider the impacts of their action on the religious interests of Native Americans, they certainly *permit* government to do so.

003 Imperial County does not have unlimited water resources (to say the least). When the economic value of the mine is so slight (especially in light of the current price of gold on world markets) it seems unjust and unwise to waste such large amounts of water and to destroy an area of such religious, cultural, historic, and archeological significance.

I urge you to deny the request for a Conditional Use Permit to drill and pump water wells for this project.

Very truly yours,

Claudia Burton

Claudia Burton

RESPONSE TO COMMENT LETTER J027 RECEIVED FROM CLAUDIA BURTON, DATED MARCH 8, 1998

Response to Comment J027:001: See Response to General Comment 001.

Response to Comment J027:002: See Response to Comment D002:005.

Response to Comment J027:003: See Response to General Comment 001.

J028

11 December 1997
Comments Addressesed to BLM Meeting on the Imperial Project
(Chemgold) at Barbara Worth Country Club.
Jay von Werlhof

001 Imperial County, the State of California, the United States of America, in short, much of the whole world, has undergone and is undergoing such rapid change in our time that change itself seems to be the dominant value guiding human society. But without anchor points that provide perspective, those changes provide no clue to direction and purpose in human culture. Indeed, under the supposed benefits of "survival of the fittest" unprincipalled evolutionary change has spawned destructive forms in culture as well as in nature. Though recognizing that many changes are destroying the foundations upon which those changes could otherwise be meaningful, laws to promote the preservation and protection of our foundations seem to place that cause as a competitor in the survival arena. But the Barbara Worth Country Club is not that arena. I am here as a part of that group reasserting the values of preservation against those of destruction, and to place our cause in the arena of democratic processes, not the survival of the fittest.

I will speak from an archaeological format.

002 The Imperial Project encompasses a major portion of the most significant all-around archaeological district in the Lower Colorado River Basin, the Indian Pass District. Bureau of Land Management has long held this to be an Area of Critical Environmental Concern, and more recently has been termed an Area of Traditional Cultural Concern. All cultural phases of the California deserts are here, spanning more than 10,000 years. This uninterrupted human story stretches from the Ice Age to the historic period. But this district is not an enclave--it relates directly to the Southwest, Great Basin, Peninsular Range, Coast, and Northern Baja. The larger picture here is the theme of Imperial Valley College Desert Museum--Human Adaptation to Arid Lands, a subject as relevant to us today as it was to the earliest Natives. This theme is our main study. As you might know, arid lands is the only major ecosystem in the world that is expanding; all others are shrinking, from the Poles to the Tropics. As the world's population expands, the deserts are becoming increasingly important demographically, but we need to learn more about them and the human adapative process.

The Natives used the numerous trail systems in this area for seasonal migrations, transportation of trade goods, and entry into special or sacred sites here. Over 150 archaeological sites are within Imperial Project, 37 of which have been deemed eligible to the National Register of Historic Places. The types of prehistoric sites recorded include lithic scatters, ceremonial rock rings, prayer circles, cleared circles, game blinds, geoglyphs, rock alignments, flaking stations for tool making, spiritual power acquisition sites, spirit breaks, petroglyphs,

milling stations, trails, ceramic scatters, pot drops, cremation ceremonial rings, fire rings and shamans' hearths.

While some sites, as vision quest sites, are but 1 sq.meter, 137 are over 1000 sq. meters, and the largest is 70,650 sq. meters. Similarly, some sites are small, as isolates which contain 3 or less components, others are complex. For example, Site 4-IMP-5061 contains 4 rock rings, 90 cleared areas, 2 rock alignments, a hunting blind, a geoglyph, 13 flaking stations with 34 cores, 39 core fragments, 766 flakes, 28 scrapers, 1 biface blade, 2 drills, 1 hammer, and 2 broken tools, comprising 874 elements. Seven such expansive sites blanket the entire project area. In addition, 1,248 cultural resources were recorded in the surrounding ancillary area, and 332 along the transmission corridor.

003 There is little doubt from an archaeological standpoint that the Indian Pass Area of Traditional Cultural Concern contains resource values that years of multi-disciplinary study could not exhaust. In addition, this is a an area containing Native traditional values that reach far beyond the perimetrs of the ATCC and which the proposed Imperial Project would of necessity change, and hence destroy. No known mitigation plan could substitute for preservation of this area. As it is, under the umbrella of a preservation plan, this area could continue to satisfy positive values for centuries to come. Under the Imperial Project plan, its economic values would be dead in 20 years, leaving a repulsive scar as a reminder that our social values took another negative change sometime in the late 20th Century.

21 August 1997

Bureau of Land Management
El Centro Resource Office
El Centro, CA 92243

Comments on Imperial Project at Indian Pass by Jay von Werlhof, Archaeologist

004 From 1 July 1997 to 8 August 1997 I participated in the field work KEA Environmental company had underway in the Indian Pass area for the Imperial Project that Chemgold Mining company initiated.

Prior to my entry in the project, survey crews had taken previous reports, and relocated recorded sites. The next step, in which I was involved, was divided into three phases.

1) Survey crews systematically re-surveyed the entire project area using the transect method. The project area had been subdivided into topographic areas that natural featues (as washes) defined. The crews took no notes, but flagged all prehistoric and historic cultural resources encountered.
2) I, at times in company with archaeologist Jackson Underwood, and Mark Kelly (Quechan tribal member) followed the survey crew, reexamining the area passed and flagging any overlooked resources as well as identifying questionable or unfamiliar items.
3) A recording crew, using sophisticated GPS computerized equipment, established the location within 1 meter accuracy of all flagged items, and entered a typological code describing the item.

I kept my observations in a field book that noted the survey area and the different types of resources I flagged. After the survey period, I was shown certain features recorded along the Sidewinder Road transmission corridor, and confirmed identifications. I then participated in preparing descriptions of certain resources (as trails) for the KEA report.

005 In reviewing the computerized map of cultural resources, it is clear that the distribution of the numerous religious and ceremonial features encountered on the project that are protected under federal law could not be mitigated through avoidance.

Some features clearly relate to keruk ceremonies, as the several cleared rings recorded from different project areas. Other sensitive religous features include vision quest sites, prayer circles, creation story geoglyphs, power acquisition sites (as quartz or black basalt reduction stations), trail systems that tie the area together, spirit breaks and petroglyphs marking certain trails.

As of this writing, quantitative data are not complete but the

number of recorded cultural resources approximate 2,000. The intensity of resources do not reflect numbers of people utilizing the area as much as they reflect the utilization of the area by diverse peoples over at least a 10,000 year period. It is also evident that the area has been utilized in recent time, indicating it is more than of archaeological or historical interest. It is a part of the Quechan living culture.

I believe that the proposed mining project would destroy a vital and uninterrupted cultural district, and that any mitigation plan other than preservation could not be accepted.

The pertinent federal laws to which I allude are 16 USC, Sections 431-433, 461-467; 16 USC, ss. 470-470w-6; 3 CFR 154/ 16 USC, ss. 469-469c; 16 USC, ss. 470aa-47011; P.L. 95-341, 92 Stat. 470.



JAY VON WERLHOF

RESPONSE TO COMMENT LETTER J028 RECEIVED FROM JAY VON WERLHOF, DATED DECEMBER 11, 1997

Response to Comment J028:001: See Response to General Comment 002.

Response to Comment J028:002: See Response to Comment I012:044.

Response to Comment J028:003: See Response to Comment I012:023.

Response to Comment J028:004: See Responses to Comments H001:004 and I012:023.

Response to Comment J028:005: See Responses to Comments H001:004 and I012:023.

3750 El Canto Drive
Spring Valley, CA 91977
April 12, 1998

COMMENTS ON IMPERIAL PROJECT, SCH No. 95041025
REVISED DEIS/EIR, November, 1997

J029

001 The opportunity to comment on Imperial project is deeply appreciated. Also, I appreciate the clarification of the privacy process and the comment deadline dates.

I continue to support the NO ACTION Alternative.

The RevisedDEIS/EIR contains no new information which would alter my position that the project cannot be amended to attain an environmentally sound catagory. In fact, no words, or charts or colored photos can convince me that the Indian Pass area is the right site for any mining operation, be it for sand, gravel, silver or gold.

Whether or not the Revised DEIS/EIR meets the requirements of NEPA and CEQA is immaterial. The project is not compatible with a score of other laws. The document is written to support a destructive project in the wrong place.

My comments will focus on some of the generic issues related to the Imperial project itself. Other commentators will dissect the document for legal, economic and environmental compliance.

GENERIC COMMENTS IN NO SPECIFIC ORDER.

002 1. The Mining Act of 1872 does not mandate the BLM to approve every application. Actually, the 1872 Act itself is subject to "regulations prescribed by law under 30 USC §22."The regulations now include NEPA (National Environmental Policy Act and FLPMA (Federal Land Policy and Management Act) with its very special section relating to the California Desert which places the environment on an equal footing with multiple use and sustained yield. These laws and others including the California Desert Protection Act, mandate the Secretary of Interior to prevent undue and unnecessary degradation of the lands and their resources, and to provide environmental protection, especially in the California Desert.

Other laws to be factored in include the Clean Air and Water Acts, Endangered Species, Surface Mining, Religious Freedom and AntiquitiesActs as well as various treaties.

For its part, the County of Imperial must comply with state laws and its own County ordinances.

The document, though revised, determines that gold extraction is the highest and best use of the Indian Pass area.with its two Wilderness Areas and the Indian Pass ACEC. BLM claims its "hands are tied" by the 1872 Mining act. I think not.

2. Public focus seems to be shifting from glorifying miners to the husbanding of national resources and guaranteeing quality desert experiences for future generations. Attachments A,B,C.

3. Also, public opinion is beginning to focus on the rights and responsibilities of Native Americans and their millenia-old cultures, traditions and environs.

4. The price of gold has been dropping recently with subsequent ripple effects: some companies are shutting down their mining operations like American Girl (Att. D),downsizing like Rand (public statement 2-20-98) or seeking cheaper permits and labor (Att.E).

5. The astronomical costs of mine-realted pollution and cleanups is escalating nationwide: Summitville, Z-L (Att.F), Cambior (Att. G), and, Star Gold, Castle Mountain and Molycorp in our own CDCA, to name but a few.

003 6. The Revised DEIS/EIR appears to be written by and for the proponents. There are hundreds of escape words and phrases, such as "if feasible," "if practical," "minimum disturbance," "with technology available.'

7. Furthermore, the proponents hire and fire their own "watchdogs", i.e. the PCR (Project Contact Representative). See 4.1.6-2.

8. The public is on shakey ground relative to current and future notifications and appeals, hearings and reviews as well as amendments, monitoring reportingt, etc. A great burden has been placed on the public to track the project's conditions and mitigations. If the project is denied, these problems will not exist.

9. The public's role with successors and future generations during the life of the project is left in limbo. If the project is denied, the problems will not exist. Note: In any case, I will leave, for my heirs, a brief summary of the Imperial Project and the names of those decision-makers who sign the RoD and State/County permits.

10. The section/s on seed gatering, revegetaion, etc is another example of the
004 self-serving Revised DEIS/EIR. The claims of Imperial that it will be successful are questionable after personal observations and comparisons with other mines and nurseries. Desert plants are not easily transplanted. Transplanting in and out of "temporary hold areas" reduces the probability of success. There is a great difference between planting, germinating and establishment. The latter may more years than are provided for in the Imperial project mitigiation budget and time-line. Here, again, the proponent's overseer is in charge of the revegetation program, over the life of the project, if project is approved as writen (Nov., 1997)

005 11. But the most unacceptable, incredible, and conscience-cleansing sections are those dealing with cultural resources (with a few paleotonological words thrown in). Pages 4-80 - 88.The complete put-down of the ancient Quechan culture is palpable. The publication of sites (Table 3.12) is certainly unprofessional if not illegal. Furthermore, it actually invites and directs vandals and poachers to pricesless resources and sacred sites.

006 I could go on for pages and pages with questions about expansion, changes, bonding, time extensions, Indian Pass Road rerouting and re-reouting, ad nauseum. Is Imperial too poor to fill in the third pit? Or are open pits the way modern miners "mark" their territoy?

I can only assume that BLM and the County will approve the project. Hence, I request only that they read Attachment H, "In an Ancient Outrage, Corporations Get the Gold - We Get the Shaft."

IN SUMMARY:
BLM and Imperial County will be hard-pressed to make findings of over-riding public benefit.
The NO ACTION Alternative is urged.
I respectfully resubmit my comments of 1-28-97 (Att. I)

Harriet Allen

RESPONSE TO COMMENT LETTER J029 RECEIVED FROM HARRIET ALLEN, DATED APRIL 12, 1998

Response to Comment J029:001: See Response to General Comment 001.

Response to Comment J029:002: See Responses to Comments I010:002, I012:032 and I015:002.

Response to Comment J029:003: See Responses to Comments I012:041, I013:163 and J007:015.

Response to Comment J029:004: See Responses to Comments E002:022 and E002:024.

Response to Comment J029:005: The section of the Draft EIS/EIR referenced by comment author is a summary description of the impacts of the Proposed Action on cultural and spiritual resources identified during the assessment that would be affected by the proposed Project. In almost every instance, the identified impacts to the respective cultural and spiritual resources were determined to be significant in the context of NEPA and CEQA. Mitigation measures are provided in the Draft EIS/EIR (pages 4-83 through 4-87) that would reduce some of the adverse effects of the impacts, but in almost every instance, the impacts were determined to remain significant after mitigation. The summary of cultural resources presented in Table 3.12 emphasizes the number and significance of the resources identified, but it does not identify the location of any of the cultural resource sites.

Revisions to the Final EIS/EIR: None.

Response to Comment J029:006: See Responses to General Comment 002 and Comments I005:010 and I013:163.

Ellen and Quentin Burke

J355

523 A Pine Avenue, P.O. Box 55, Holtville, CA 92250
Phone: 760 356-4102 -- Fax: 760 356-2778 -- e-mail 104234,3636

April 4, 1998

Dear Mr. Romoli:

I wish to make the following comments on the EIS/EIR of the Imperial Project

Desert Pavement

001 The EIS/EIR for the Imperial Project makes only brief reference to Desert Pavement. It is the opinion of this Valley resident that Desert Pavement is an irreplaceable asset of the desert lands under the aegis of the B.L.M.

Desert Pavement has taken eons to form. Even today, the experts writing in the EIS/EIR cannot fully explain how this phenomenon occurs, or how long it takes to form.

002 There is no mention in the document of the resource value of Desert Pavement. It appears that many acres of it are simply to be stripped from the ground and dumped in overburden heaps: this is intolerable. The BLM should be protecting the Desert Pavement. At the very least:

1) The BLM should re-asses its attitude to Desert Pavement. It should be regarded as the priceless geological resource and aesthetically beautiful part of the desert landscape that it is. No projects should be permitted in areas of Desert Pavement.

003 2) The BLM should require the applicants to remove all desert pavement rocks (over, says, six or eight inches in diameter) and stockpile them, preferably right side up, so they can be replaced after mining ceases. This should be done with equipment that will not damage the desert varnish.
The varnished rocks should be replaced on reclaimed level areas, right side up, after the end of the mining cycle.

004 3) Some of the rocks can be used by BLM surface restoration specialists to infill existing desert pavement areas (such as the Running Man area of the ancillary portion of the site) where desert pavement has been disturbed.

005 4) If this is not approved, and the project proceeds, the BLM should issue permits to Valley residents who wish to "Save the Pavement" to rescue and protect such rocks as are doomed by the project activity, prior to the start of the project. Permits should also be issued to those persons wishing to remove desert vegetation which otherwise would be doomed.

Submitted by,

Quentin Burke

RESPONSE TO COMMENT LETTER J355 RECEIVED FROM QUENTIN AND ELLEN BURKE, DATED APRIL 4, 1998

Response to Comment J355:001: (The Following Response is Also Applicable to Comments J355:002 and J355:005.) Comments noted. Desert pavement is not considered a "resource" by itself, although the aesthetic value of desert pavement is considered as a part of the visual resource environment which would be affected by the implementation of the Proposed Action (see Section 3.7.2. [pages 3-95 through 3-97] of the Draft EIS/EIR).

Revisions to the Final EIS/EIR: None.

Response to Comment J355:002: See Response to Comment J355:001.

Response to Comment J355:003: See Response to Comment F001:003.

Response to Comment J355:004: See Response to Comment F001:003.

Response to Comment J355:005: See Response to Comment J355:001.

3 SPEAKERS AT PUBLIC HEARINGS PROVIDING SUBSTANTIVE COMMENTS AND RESPONSES TO THESE COMMENTS ON THE DRAFT EIS/EIR

SPEAKERS AT 12/10/98 PUBLIC HEARING

IT MUST BE RECEIVED IN THE EL CENTRO B.L.M. OFFICE NO LATER THAN 4:30 P.M. ON JANUARY 27, 1998.

THESE WRITTEN AND ORAL COMMENTS WILL BE INCLUDED AS PART OF THE OFFICIAL RECORD. WRITTEN STATEMENTS WILL BE GIVEN EQUAL WEIGHT ALONG WITH THE ORAL COMMENTS.

AND ARE THERE ANY QUESTIONS?

NO. FINE.

I'D LIKE TO CALL THE FIRST SPEAKER. AND I APOLOGIZE IN ADVANCE IF I DO ANYTHING BAD TO ANYONE'S NAME.

001 THE FIRST SPEAKER IS EDIE HARMON. **M001**

EDIE HARMON: I'M EDIE HARMON, AND FIRST OF ALL I'M GOING TO READ INTO THE RECORD A MOTION THAT WAS PASSED BY THE SIERRA CLUB CALIFORNIA CONSERVATION COMMITTEE ON MARCH 9, 1997.

"CALIFORNIA NEVADA CONSERVATION COMMITTEE OPPOSES CHEMGOLD'S PROPOSED IMPERIAL PROJECT, A NEW CYANIDE HEAP-LEACH, OPEN-PIT GOLD MINE ON THE INDIAN PASS ROAD IN EASTERN IMPERIAL COUNTY, CALIFORNIA. IDENTIFIED IMPACTS TO VISUAL, CULTURAL, AND BIOLOGICAL RESOURCES CANNOT BE MITIGATED; GROUND WATER STUDIES ARE INADEQUATE AND INFORMATION PRESENTED CONTAINS CONFUSING CONTRADICTIONS; REVEGETATION AND RECLAMATION PROPOSALS ARE INADEQUATE; NO MEANINGFUL ALTERNATIVES TO PROPOSED PROJECT WERE ANALYZED. B.L.M. IDENTIFICATION OF ITS

PREFERRED ALTERNATIVE BEFORE GETTING PUBLIC COMMENTS IS INAPPROPRIATE. QUECHAN INDIANS HAVE COMPLAINED BITTERLY ABOUT B.L.M.'S CONSULTATION PROCESS AND FEEL THEY SHOULD NOT HAVE TO DISCLOSE THE DETAILS OF THEIR RELIGIOUS AND CULTURAL PRACTICES FOR PUBLIC REVIEW IN ORDER TO PROTECT WHAT IS SACRED TO THEM. SIMILARLY, THEY HAVE REQUESTED THAT THEIR ORAL COMMENTARY BE ACCEPTED IN LIEU OF WRITTEN COMMENT, BUT B.L.M. REJECTS THIS REQUEST. SIERRA CLUB RESPECTS THE DIFFERENT CULTURAL AND RELIGIOUS TRADITIONS OF THE QUECHAN TRIBE AND REQUESTS THAT B.L.M. AND DEPARTMENT OF INTERIOR ACTIONS RESPECT QUECHAN CONCERNS AND WITHHOLD APPROVAL OF CHEMGOLD'S PROPOSED OPEN-PIT MINE IN A PLACE NEVER DISTURBED BY PREVIOUS MINING ACTIVITY."

I'LL SUMBIT THIS AFTERWARDS.

I'VE HAD A BRIEF OPPORTUNITY TO TAKE A LOOK AT THE DOCUMENTS, AND I DON'T SEE ANYTHING IN THE NEW DOCUMENTS THAT WOULD WARRANT ME TO RECOMMEND THAT THAT POSITION OF THE SIERRA CLUB BE CHANGED. THE CHANGES THAT I'VE SEEN ARE

002 MINOR. THE TECHNICAL APPENDICES, FOR THE MOST PART, AS TERRY SAID, WERE PREPARED BY THE APPLICANT NOT FOR B.L.M. OR FOR IMPERIAL COUNTY AND MOST OF THE TECHNICAL APPENDICES CLEARLY STATE THAT THEY WERE PREPARED FOR CHEMGOLD.

THERE IS NO ANALYSIS OF NATURALLY OCCURRING RADIOACTIVE MATERIALS, NORMS, IN THE IMMEDIATE VICINITY OF THE PROPOSED MINE. SOIL SAMPLES WERE COLLECTED 15 MILES AWAY. STUDIES WERE DONE IN CALEXICO AND BRAWLEY SHOW CONSIDERABLE DIFFERENCE IN THE LEVELS OF THORIUM, RADON, AND URANIUM VALUES. AND BECAUSE OF POTENTIAL HEALTH IMPACTS, THERE NEEDS TO BE STUDIES CLOSE TO THE AREA RATHER THAN TO ACCEPT DATA FROM FAR AWAY.

THERE WERE NO AMBIENT NOISE LEVELS THAT WERE MEASURED ON SITE. AND THE ASSUMED LOW VALUES ARE MUCH HIGHER THAN WOULD BE EXPECTED IN SIMILAR ISOLATED DESERT AREAS BASED ON BACKGROUND LEVELING THAT ARE MEASURED IN OTHER NATIONAL PARKS.

THE DRAFT E.I.S. PRESENTS MISLEADING TECHNICAL INFORMATION WHEN IT STATES THAT THE BASELINE WASH VEGETATION STUDY WAS DONE IN MAY OF 1997. WHERE, IN FACT, TECHNICAL APPENDIX G, THE WASH VEGETATION AND HABITAT STUDY, HAS A COVER DATE OF MAY 1997. BUT THE TEXT AT PAGE 4 STATES THAT THE STUDIES WERE CONDUCTED FROM JANUARY 21ST TO 24TH, 1997, A TIME OF MINIMAL ANNUAL VEGETATIVE COVER.

MANY COMMON ANNUALS THAT ARE IN BLOOM AND PERENNIALS THAT ARE NOW IN BLOOM AT THE SITE AT THIS TIME ARE NOT LISTED IN ANY OF THE BOTANICAL SURVEYS FOR THIS PROJECT NO MATTER WHAT TIME OF YEAR THEY WERE DONE.

AND -- ONE MINUTE MORE?

THE B.L.M. ASKED FOR SUBSTANTIVE COMMENTS ON THE

DOCUMENT, BUT I'M SUBMITTING A LIST. THERE ARE 17 APPENDICES IN VOLUME TWO WHICH HAVE BEEN DELETED FROM THE DOCUMENT. IT SAYS THAT:

"THE INFORMATION OTHERWISE CONTAINED IN THE APPENDIX OR ATTACHMENT HAS BEEN REMOVED FROM THIS VERSION OF THE E.I.S./E.I.R. THIS REMOVED INFORMATION MAY BE VIEWED IN ITS ENTIRETY AT THE B.L.M. OFFICE IN EL CENTRO."

THAT'S WOEFULLY INADEQUATE. IF YOU'RE LOOKING AT TECHNICAL INFORMATION ON GROUND WATER, IT'S ALL AT B.L.M. IT'S NOT AVAILABLE FOR EXPERTS WHO LIVE OUTSIDE OF THE AREA AND TYPICAL OF THE MEANINGLESS ATTEMPTS AT MITIGATION OR RECLAMATION IS THE STATEMENT THAT THERE WOULD BE A REVEGETATION MONITORING AND REVIEW COMMITTEE WITH MEMBERS RECOMMENDED BY THE PROJECT APPLICANT THAT THIS COMMITTEE CAN MAKE SUGGESTIONS TO THE APPLICANT OF CHANGES THAT THE APPLICANT MIGHT WANT TO MAKE. THAT EFFORT SEEMS TO BE CONFLICT OF INTEREST. THAT'S CLEARLY NOT INDEPENDENT OVERSIGHT AND INPUT ON THIS PROJECT.

I HAVE MORE, BUT I'D LOVE TO SPEAK LATER.

MS. BRIGGS: LOUISE MURPHY.

LOUISE MURPHY: MY NAME IS LOUISE MURPHY, AND THAT WAS SO AUREATE, I'M KIND OF INTIMIDATED BECAUSE I'M NOT THAT AUREATE. I'VE NEVER DONE ANYTHING LIKE THIS BEFORE. AND I FLEW DOWN FROM BERKELEY, CALIFORNIA, AND IT'S CHRISTMAS TIME AND IT'S COSTING ME $180 DO THIS, WHICH FOR ME IS A LOT OF

MONEY. AND I DID IT BECAUSE I'M DATING A MAN WHO LIKES THE DESERT, AND HE DRAGGED ME OUT THERE ON THIS DESERT THING, AND I SAID, OKAY, WE'LL DO IT. AND I WENT OUT AND CAMPED THERE, AND WAS REALLY STUNNED BY THE LAND AND THE BEAUTY OF IT. AND I HAVE TWO KIDS. I'VE BEEN A MOTHER; I'VE BEEN A SCHOOL TEACHER; I'VE TAUGHT 7TH GRADE, COLLEGE, AND ADULT EDUCATION IN CALIFORNIA. I'VE SPENT MY LIFE CARING A LOT ABOUT KIDS. I'VE BEEN A CUB SCOUT DEN MOTHER, GOD HELP ME. AND I REALLY CARE ABOUT KIDS. AND WHEN YOU LOOK AT THAT PIECE OF LAND AND THINK OF TAKING YOUR CHILDREN AND YOUR GRANDCHILDREN THERE AND SHOWING IT TO THEM, IT'S IMMENSE. AND I KNOW A LOT ABOUT GOLD BECAUSE I LIVE IN BERKELEY, I SHOP IN BERKELEY AND OAKLAND, SAN FRANCISCO, I SEE A LOT OF GOLD ON THE STREETS. AND IT'S ON 14- AND 15- AND 16-YEAR-OLD KIDS. THEY WEAR BIG, CLUMPY GOLD NECKLACES, GOLD BRACELETS, GOLD WATCHES, GOLD RINGS; THEY LOVE GOLD. AND THE KIDS WEARING IT DON'T HAVE THE MONEY FOR THAT $10,000 WORTH OF GOLD. THEY GOT IT FROM DEALING DRUGS. NOW, IF THIS WERE MINING SOMETHING THAT WERE OF GREAT NATIONAL IMPORTANCE, I DON'T THINK I'D BE STANDING HERE. BUT I'VE SEEN TOO MANY CHILDREN WHO ARE KILLING EACH OTHER ON THE STREETS OF THE CITY WHERE I LIVE FOR GOLD. AND I DON'T LIKE IT. I DON'T LIKE IT THAT THEIR VALUE SYSTEM HAS COME DOWN TO TRY TO OWN GOLD TO SHOW THAT THEY ARE MEN OR THAT THEY ARE WOMEN. I REALLY HATE THAT. AND IT SEEMS TO ME WE HAVE AN INCREDIBLE OPPORTUNITY HERE TO DEMONSTRATE TO OUR CHILDREN AND GRANDCHILDREN AND TO ALL THESE KIDS THAT THERE

IS SOMETHING IN LIFE MORE IMPORTANT THAN GOLD. THAT THE SPIRITUAL VALUES AND THE ETHNIC VALUES AND THE CULTURAL VALUES OF OUR NATION ARE NOT ROOTED IN GOLD; THEY ARE ROOTED IN GOD. AND I THINK WE HAVE AN ENORMOUS OPPORTUNITY TO DO THIS FOR OUR CHILDREN. AND I HAVE TWO CHILDREN. LOOKS LIKE I'M GOING TO HAVE GRANDCHILDREN IN A COUPLE OF YEARS THE WAY MY DAUGHTER IS CARRYING ON; SO I CARE ABOUT THIS, YOU KNOW? I CARE ABOUT THIS. I WOULD LOVE TO TAKE A BUNCH OF KIDS THERE AND WALK THEM OUT AND SHOW THEM SOME OF THE THINGS I SAW. SO I FLEW DOWN HERE JUST TO SAY THAT. AND YOU'RE VERY KIND TO LISTEN TO ME. THANK YOU.

MS. BRIGGS: JAMES HARMON.

JAMES HARMON: FIRST I WANT TO MAKE A REQUEST FOR AN EXTENSION OF COMMENTS. I NEED A LITTLE TIME TO DIGEST THAT NINE-AND-A-HALF-POUND TURKEY. I'LL START OFF BY OBSERVING THAT THE THREAT TO CULTURAL RESOURCES NOW IS PRIMARY AND MY OPPOSITION TO THIS PROJECT. IN FACT, IF THE PROJECT GOES IN, I CAN SAY SAFELY THAT THE CATCH ON CULTURE WILL SLOWLY SLIP INTO DESTITUTE, BURIED IN PHONY MITIGATION. THERE ARE NO FEDERAL REGULATIONS THAT REQUIRE THE INDIANS MUST EXPLAIN IN TERMS NON-INDIANS CAN COMPREHEND REGARDING THE DETAILS OF SUPERFLUOUS OR VARIOUS ASPECTS OF THE NATIVE AMERICAN SPIRITUAL OR RELIGIOUS OR CULTURAL BELIEFS IN ORDER THAT THEY BE ACCORDED THE RESPECT AND CONSIDERATION SPELLED OUT IN EXECUTIVE ORDER NO. 13007 READS: INDIANS' SACRED SITES. BECAUSE NEITHER GLAMIS GOLD OR ANY OF ITS WHOLLY OWNED

RESPONSE TO THE TRANSCRIPT OF COMMENTS M001 MADE BY EDIE HARMON, AT THE PUBLIC MEETING ON THE DRAFT EIS/EIR, HELD IN LA MESA, CALIFORNIA, ON DECEMBER 10, 1997

Response to Comment M001:001: See Responses to General Comment 002 and Comment H001:004.

Response to Comment M001:002: See Response to Comment I009:031.

Response to Comment M001:003: As stated in Section 4.1.1.2. (page 4-3) of the Draft EIS/EIR, "Materials to be mined by the Project have not been analyzed for naturally occurring radioactive materials (NORM). However, some analyses from the general area for radon gas and uranium and thorium in soils have been conducted and can be used as an indication of the relative amount of NORM in the Project mine and process area." The Draft EIS/EIR in this section reports two Brawley radon values of 1.1 and 1.8 pCi/l, which are not that different, and both of which are well below the EPA action level of 4.0 pCi/l. Brawley is located approximately 42 miles, not 15 miles, from the Project mine and process area. No samples for Calexico were reported in the Draft EIS/EIR. The Draft EIS/EIR in this section also reported that two soil samples collected in the immediate vicinity of the Project area had uranium and thorium values with averages that were essentially identical to the crustal abundance of these elements. Thus, this section of the Draft EIS/EIR found that "neither the Project area nor the vicinity appears to have elevated levels of radioactive elements and, therefore, elevated NORM levels would not likely be expected to be produced by operations within the Project mine and process area." No new analyses are warranted.

Revisions to the Final EIS/EIR: None.

Response to Comment M001:004: See Response to Comment I005:014.

Response to Comment M001:005: See Response to Comment I005:012.

Response to Comment M001:006: See Response to Comment I009:031.

Response to Comment M001:007: See Response to Comment I013:163.

WE NOW RECOGNIZE THAT THE SITES AND OBJECTS
REPRESENTING AMERICA'S CULTURAL HERITAGE
DESERVE OUR RESPECT AND PROTECTION."
SO I THINK THAT WOULD BE A GOOD THING FOR AMERICANS TO DIVEST THEMSELVES OF THE GOLD PSYCHOSIS. **M004**

ERIC SCHORI: OKAY. I'M ERIC SCHORI, AND THIS IS AN
001 IMPRESSIVELY THICK DOCUMENT AND THAT IS THE MOST IMPRESSIVE THING I FOUND ABOUT IT. THE ORIGINAL WAS RECALLED BECAUSE, AS I HAVE HEARD, IT WAS ESSENTIALLY A SHODDILY AND POORLY DONE JOB. WELL, I THINK YOU PEOPLE, UNFORTUNATELY, ARE GOING TO HAVE TO ASK FOR ANOTHER ONE. BECAUSE REALLY NOT MUCH WAS CHANGED. THERE'S -- I'VE GOTTEN, READING WORD FOR WORD COMPARING THE TWO DOCUMENTS, ABOUT 30 PAGES INTO IT. AND YOU CAN SEE FROM THE POST-ITS HERE THAT THERE ARE A LOT OF CHANGES. BUT MOST OF THEM ARE JUST REWORDING THE PHRASES, CHANGING THE ORDER AROUND A LITTLE BIT. AND IF YOU LOOK AT THE TWO, THE OLD AND NEW DOCUMENT, THE THICKNESS IS ABOUT THE SAME AND A LOT OF THEIR REPORTS ARE DONE BY PH.D'S AND THEIR 30, 40, OR A COUPLE HUNDRED PAGES THICK. SO YOU CAN TELL THAT ESSENTIALLY NOT AN AWFUL LOT OF NEW INFORMATION WAS
002 ADDED TO THIS COPY. AND, IN GENERAL, AS OTHER PEOPLE HAVE BEEN MENTIONING, THINGS LIKE DOING BOTANICAL SURVEYS IN THE MIDDLE OF THE WINTER AFTER MANY YEARS OF DROUGHT, IN THE TECHNICAL APPENDIX, WHICH IS WHAT MOST OF THE WHOLE DOCUMENT
003 IS BASED ON, THERE ARE WHOLE SECTIONS THAT ARE MISSING THAT ARE AVAILABLE, I BELIEVE, ONLY AT THE EL CENTRO OFFICE.

004 1 IN GENERAL, THE DOCUMENT REFLECTS THE FACT THAT IT
2 WAS PREPARED BY PEOPLE WHO WERE PAID BY GLAMIS GOLD TO
3 PREPARE A REPORT THAT IS VERY FAVORABLE TO GLAMIS. AND THERE
4 ARE SECTIONS IN HERE WHERE IT'S NICELY WRITTEN UP EXCEPT THAT
5 I GUESS EITHER SOMEONE WAS CARELESS OR THEY DON'T KNOW
6 GRAMMAR OR THEY WERE TYPING REALLY FAST AND THERE ARE
7 SENTENCES THAT MAKE NO SENSE WHATSOEVER BECAUSE THEY LEAVE
8 OUT THINGS LIKE SUBJECTS, WORDS, VERBS, PARTS OF PARAGRAPHS,
9 AND IT JUST LITERALLY MAKES NO SENSE WHATSOEVER. IN GENERAL,
10 I WOULD JUST SAY IT'S A REALLY BAD JOB. THE GOLD COMPANY
11 PAID FOR IT AND PARTS THAT DON'T REPRESENT THEIR VIEW TO A
12 LARGE PART ARE IN EXTREMELY CONFUSING LANGUAGE DELIBERATELY
13 OR INFORMATION IS SIMPLY MISSING. ALL IN ALL, IT'S A VERY
14 POORLY DONE JOB.
15 MS. BRIGGS: CAROLYN JENNINGS.
16 CAROLYN JENNINGS: I'M GOING TO READ YOU A LOVELY POEM
17 WRITTEN BY ANASTASIA. IT'S CALLED CRISIS AT INDIAN PASS.
18 "GOLD THEY SAY. AND WITH GOLD THEY PAY.
19 FOR IT'S GOLD AND THE DESERT BE DAMNED.
20 ON ANCIENT TRAILS, OUR PEOPLE'S WAILS ARE
21 HEARD THROUGHOUT THE LAND. THE TOOLS WE
22 MADE LAY AS THEY'VE LAIN FOR 10,000 YEARS
23 OR MORE. PILLAGING COMES WHILE ANCIENT
24 DRUMS DENOUNCE THE LUST FOR ORE. ANCIENT
25 ONES CRY AS EACH SPIRITUAL SITE IS MANGLED,
26 IS TRAMPLED AND TORN. AN EAGLE TAKES

FLIGHT TO SCOUR THE SITE FROM WHENCE OUR PEOPLE WERE BORN. GOLD IS THE NAME AND GOLD IS THE GAME. ARE MY PEOPLE'S VISION QUEST DOOMED? WILL FINANCIAL GAIN LEAD US TO SHAME AS IT GIVES WAY TO THE MINING GHOUL? AND ALL THE WHILE IN SINGLE FILE THE SOULS THAT INDIAN PASS PARADES WITH ANGUISHED SIGHS THE SPIRITS COLLIDE WITH THE MARCH OF A DIFFERENT DAY. WILL ANCIENT SITES, OUR BOUNTIES DELIGHTS, TOUCH THE HEART OF OUR BUREAUCRATS? WILL FISCAL GAIN OR PETULANCE GAIN REIGN WHEN THE FINAL VOTE IS CAST?"

MS. BRIGGS: CRAIG KIERULFF.

CRAIG KIERULFF: HI, I'M HERE AS A MEMBER OF THE AMERICAN INDIAN SCIENCE AND ENGINEERING SOCIETY AT PALOMAR COLLEGE. OUR GROUP JUST RECENTLY FOUND OUT ABOUT WHAT WAS GOING ON OUT AT GLAMIS, AND WE'RE MAKING EFFORTS NOW TO GET MORE INFORMATION OUT TO THE REGIONAL AREA. THE AMERICAN INDIAN'S SCIENCE AND ENGINEERING SOCIETY IS MAKING EFFORTS NOW TO GET MORE INFORMATION OUT TO THE U.C. SYSTEM CHAPTERS OF A.I.S.E.S. SO THAT THIS INFORMATION CAN BE DIGESTED FURTHER THROUGH MEMBERS OF THE AMERICAN INDIAN COMMUNITY. I'D LIKE TO SAY THAT I'M CATEGORICALLY OPPOSED TO THE OPEN-PIT MINING THAT THEY'RE PROPOSING OUT AT GLAMIS. I THINK IT'S AN ABOMINATION. THE AMOUNT OF GOLD THAT THEY'RE

RESPONSE TO THE TRANSCRIPT OF COMMENTS M004 MADE BY ERIC SCHORI, AT THE PUBLIC MEETING ON THE DRAFT EIS/EIR, HELD IN LA MESA, CALIFORNIA, ON DECEMBER 10, 1997

Response to Comment M004:001: See Responses to General Comment 002 and Comment J007:015.

Response to Comment M004:002: See Response to Comment I005:012.

Response to Comment M004:003: See Response to Comment I009:031.

Response to Comment M004:004: See Response to Comment J007:015.

CONSTRUCTION OPERATIONS, FACILITIES, AND CONDITIONS WOULD RESULT IN SIGNIFICANT ADVERSE AFFECTS TO PREHISTORIC CULTURAL RESOURCES, NATIVE AMERICAN TRADITIONAL CULTURAL USES AND VALUES AND VISUAL RESOURCES." YOU KNOW, THAT SUMS IT UP. WHY GO ON WITH THIS PROJECT? AND I, TOO, WOULD LIKE TO ASK YOU TO EXTEND THE COMMENT PERIOD SO MORE PEOPLE CAN LEARN ABOUT THIS AND GIVE YOU THEIR POINT OF VIEW TOO. AND I THANK YOU. **M015**

001 DEVORE SMITH: REVEREND DEVORE SMITH. I'M A CITIZEN OF SAN DIEGO NEAR THE STATE UNIVERSITY AREA. I AM CONCERNED ABOUT THE RIGHTS OF THE INDIANS THAT ARE BEING TRESPASSED BY THE ACTIONS OF THE BUREAU OF LAND MANAGEMENT, AMERICAN REPRESENTATIVES WHO ARE IN A PROCESS OF INHIBITING AND, ESSENTIALLY, PROHIBITING THE RELIGIOUS OBSERVANCE OF THE QUECHAN INDIANS. IN THE FIRST AMENDMENT TO OUR CONSTITUTION, NUMBER ONE, BEING VERY IMPORTANT, I GUESS, IT SAYS THAT:

"CONGRESS SHALL MAKE NO LAW RESPECTING AN ESTABLISHMENT OF RELIGION OR PROHIBITING THE FREE EXERCISE THEREOF."

BY DIGGING HUGE HOLES AND BUILDING HUGE MINES, PILES OF GRAVEL, WE PREVENT THE EXERCISE OF RELIGION BY THESE PEOPLE WHO ARE HERE, AS SAID, 10,000 YEARS AGO AND ARE STILL HERE. RELIGION IS PARTLY A MATTER OF TRADITION AND HISTORY. AND MARKINGS ON THE WALLS AND TEMPLES AND CROSSES ON MT. SOLEDAD. THIS IS WHAT RELIGION IS. AND -- IT -- OUR

CONSTITUTION SAYS THAT WE CANNOT PROHIBIT THE RIGHT OF EXERCISING THAT RELIGION. THIS LAND ORIGINALLY BELONGED TO OUR NATIVE AMERICANS. IT WAS THEN CLAIMED BY THE AMERICAN PEOPLE AS PUBLIC LANDS BY OUR PIONEER ANCESTORS AND THE
0025 COLONISTS. IT HAS NOW BEEN SOLD AT $5 AN ACRE, MORE OR LESS, BY THE ACT OF 1872 TO A CANADIAN CONGLOMERATE OF GOLD MINING PROSPECTORS, INVESTORS WHO WANT TO DISSOLVE THE GOLD OUT OF OUR LAND. I WAS RECENTLY IN TOUCH WITH A REALTOR I WAS WORKING WITH AND BOUGHT A HOUSE FROM; AND IN THE PROCESS HE TRIED TO SELL A SHARE IN A GOLD MINING VENTURE EXACTLY LIKE THIS. HE SAID, "GIVE ME $10,000, AND YOU CAN BE A PART OF THE PEOPLE WHO ARE GOING TO GO IN AND BULLDOZE OVER SOME LAND, RUN IT THROUGH SOME ACID AND WE'LL LEACH THE GOLD OUT." AND I SAID, "WELL, I BETTER NOT." JUST LIKE I ALMOST BOUGHT SOME SWAMP LAND IN FLORIDA ONE TIME BY A DEALER OVER IN PARIS. BUT THAT THING FIZZLED. IF I HAD GIVEN HIM MY 10,000, I WOULD HAVE LOST ALL MY MONEY. AND I THINK THAT'S EXACTLY WHAT WE NEED TO DO WITH THESE PEOPLE FROM THE GLAMIS CORPORATION.

0032 I RECOMMEND THAT THE PROJECT BE AT LEAST PUT ON HOLD OR ABANDONED PENDING COMPELLING OUR CONGRESS TO REVISE AND VASTLY INCREASE THE SALE PRICE AND TO ESTABLISH A ROYALTY BASIS, A LARGE PERCENTAGE OF THE $300 AN OUNCE OF OUR PRECIOUS HERITAGE, OUR GOLD TAKEN OUT OF OUR COUNTRY THAT THIS BE SIMILAR TO THE ROYALTIES THAT ARE ON THE REMOVAL OF OIL IN OUR LAND AND THE PRICE WE HAVE TO PAY AT $19 A

GALLON -- A BARREL FROM THE ARAB COUNTRIES. SUCH LEGISLATION IN THE INTEREST OF AMERICAN PEOPLE AND OUR PHYSICAL AND NATURAL AND SPIRITUAL RESOURCES WILL MAKE SUCH DEVASTATING VENTURES TOO COSTLY, LESS PROFITABLE WITH POSSIBLE FAILURE ON THE PART OF THE INVESTORS WITH MINIMAL AND BANKRUPTING RETURN ON THEIR GAMBLING INVESTMENT. THANK YOU.

MS. BRIGGS: WE'RE CLOSE TO HALFWAY THROUGH THE LIST, AND WE WOULD LIKE TO TAKE A FIVE-MINUTE BREAK ESPECIALLY SO THE REPORTER CAN HAVE A BREAK.

(A SHORT BREAK WAS TAKEN.)

MS. BRIGGS: THE NEXT PERSON ON THE LIST IS JIM RICKER.

JIM RICKER: HI, MY NAME IS JIM RICKER. MY ADDRESS IS 4622 CAMPUS AVENUE, 92116. I WANT TO THANK THE BUREAU OF LAND MANAGEMENT FOR THE OPPORTUNITY TO EXPRESS MY VIEWS AT THIS OPEN HEARING. YOU AT THE B.L.M. HAVE AN OPPORTUNITY TO MAKE A CREATIVE LAND-USE DECISION HERE. AND IN THE FUTURE HEARINGS -- WELL, MY FIRST REQUEST IS FOR MORE HEARINGS AND LONGER COMMENT PERIOD FOLLOWING THIS E.I.R. MY INTEREST IN THIS PROJECT IS AS A CITIZEN, A MEMBER OF THE COMMUNITY, A VOTER, A COOK, A USER, AND AN APPRECIATOR OF INDIAN PASS AS A RECREATOR. SO I HAVE A PERSONAL, SELFISH REASON TO PROTECT THIS AREA AS IT IS TODAY. I'M JUST ONE OF THOUSANDS OF CALIFORNIA RESIDENTS, WORLD TOURISTS, AND OTHERS INCLUDING NATIVE AMERICANS WHO APPRECIATE THIS SITE FOR ITS RECREATIONAL VALUE. THE D.E.I.S. IS INADEQUATE. THE

D.E.I.S. DOES NOT ADDRESS SOME ISSUES. THE REVEGETATION MITIGATION IS INADEQUATE. SOME WOULD SAY LUDICROUS. THE PRICELESS GENETIC HERITAGE OF PLANTS, INSECTS, ANIMALS AND PEOPLE AND THE INTERACTIONS AMONG THEM IS NOT ADDRESSED IN THIS E.I.S. THE CULTURAL HERITAGE OF THIS LAND IS UNMITIGATABLE. THE LAND, ITS PLANTS, ITS PEOPLE ARE TO BE LOST TO US, THE CITIZENS, THE RECREATORS IN THIS DESERT GARDEN WHERE WE ALL LOSE RELATIONSHIPS THOSE BETWEEN PLANT AND POLLINATOR, BETWEEN LAND AND PEOPLE, PRIEST AND ACOLYTE, CAR CAMPER AND WILD FLOWERS ARE NOT ADDRESSED IN THIS DOCUMENT. I SUBMIT THAT THIS DOCUMENT DOESN'T ADDRESS THE 21ST CENTURY ECONOMIC IMPACT OF THIS PROJECT FOR THIS IS A 19TH CENTURY PROJECT. UNSUSTAINABLE, NONRENEWABLE, UNKNOWN ECOLOGICAL ASSETS, CULTURAL, BOTANICAL LIE IN THIS LAND. THIS E.I.R. DOES NOT ADDRESS THE LOST OF GENETIC AND CULTURAL BIO-DIVERSITY IN THIS BEAUTIFUL PATCH OF SACRED DESERT. I PREFER AND REQUEST THAT THE NO-PROJECT ALTERNATIVE BE PROMULGATED BY THE B.L.M. THIS WOULD MAKE THE E.I.R. A TRUE 21ST CENTURY DOCUMENT WITH THE PREFERRED ALTERNATIVE BEING SUSTAINABLE, RENEWABLE USE OF THIS LAND PROTECTED FOR ALL OF US AND OUR CHILDREN.

MS. BRIGGS: PAUL SLAYTON.

PAUL SLAYTON: MY NAME IS PAUL SLAYTON, AND I'VE COME HERE TO SAY THAT I CAN'T SPEAK IN FAVOR OF THE MINE. I THINK THERE'S A LOT OF THINGS THAT ARE PRETTY OBVIOUS WHEN YOU READ THE E.I.R. EVEN AS BAD AS IT IS. IT'S OBVIOUS THAT THERE'S

GOING TO BE A VERY LARGE NEGATIVE IMPACT TO THE LAND THERE AND THAT IT CAN'T BE MITIGATED AND THAT THE BENEFITS THAT WILL ACCRUE WILL GO MAINLY TO CHEMGOLD AND NOT TO THE PEOPLE OF THE UNITED STATES WHO ROAM THE LAND AND NOT EVEN TO THE PEOPLE OF IMPERIAL COUNTY AND THE CITIES. EVEN THOUGH THERE WILL BE JOBS CREATED BY THE MINES, THERE'S GOING TO BE A LOT OF JOBS THAT ARE GOING TO BE DESTROYED BY IT TOO BECAUSE THE QUALITY OF THE LAND IS GOING TO BE SEVERELY IMPACTED ESPECIALLY DURING THE YEARS WHEN THE MINE IS ACTIVE. I DON'T HAVE THE EXPERTISE TO GO THROUGH TECHNICALLY TECHNICAL POINTS IN THE E.I.R. BUT THERE WERE SOME THINGS THAT I HAD QUESTIONS ABOUT WHICH MIGHT HAVE BEEN ANSWERED TONIGHT. I WASN'T SURE ABOUT WHETHER THE B.L.M. HAD AN OBLIGATION TO APPROVE THE MINE OR NOT. IT SEEMED FROM THE E.I.R. THAT YOU HAD TO, BUT SOMEONE ELSE SAID IT WASN'T NECESSARY. SO, OBVIOUSLY, IF IT'S NOT NECESSARY, THEN YOU SHOULDN'T BECAUSE THIS IS REALLY NOT THE BEST USE OF THE LAND. THERE WERE NO REPORTS OF WHAT THE DUST LEVELS IN THE AREA ARE NOW AND HOW THAT MIGHT BE -- HOW THEY MAY BE INCREASED BY MINING ACTIVITIES. THERE WERE NO REPORTS FROM OTHER MINES IN THE AREA WHAT EFFECT THEY HAD OR WHAT DUST LEVELS EXIST AROUND THEM. THERE WAS NO ANALYSIS OF WHAT THE INCREASED TRAFFIC -- ESPECIALLY IN TERMS OF TRUCK TRAFFIC -- WOULD HAVE ON THE ROADS AND WHAT THAT WOULD COST THE COUNTY AND THE SURROUNDING CITIES. SO I WOULD LIKE TO SAY, AGAIN, THAT I THINK THAT THE MINE SHOULD NOT BE APPROVED AND THAT THE IMPACTS TO THE ENVIRONMENT AND TO THE

SURROUNDING HUMAN POPULOUS ARE SIGNIFICANT AND UNMITIGATABLE. THANK YOU.

MS. BRIGGS: NORMA SULLIVAN.

NORMA SULLIVAN: HI, I'M NORMA SULLIVAN REPRESENTING THE SAN DIEGO OTTOMANS SOCIETY. OUR BOARD IS STRONGLY OPPOSED TO THE MINE FOR THE REASONS YOU'VE HEARD FROM EDIE HARMON AND OTHERS. THE IMPACTS ARE TOO SEVERE AND SIMPLY CANNOT BE MITIGATED. THE MITIGATION MEASURES ARE LUDICROUS AS INDICATED. WE WOULD ALSO REQUEST AN EXTENSION OF THE COMMENT PERIOD. AND, OF COURSE, IT'S TERRIBLE THAT THE TECHNOLOGICAL INDEXES ARE AVAILABLE ONLY AT THE OFFICES. THAT'S TERRIBLE. IT'S ALSO, SEEMS TO ME, DISGRACEFUL THAT THE TRIBES CAN'T GIVE THEIR TESTIMONY ON TAPE AND HAVE IT ACCEPTED. TAPED TESTIMONY IS ACCEPTED IN ALL SORTS OF CIRCUMSTANCES AND IT CERTAINLY SHOULD BE IN THIS ONE. THAT THEY'RE NOT BEING HEARD FROM, WELL, IS A CRIME. WE RECOMMEND THE NO-PROJECT ALTERNATIVE. AS NICK ERVIN POINTED OUT, YOU HAVE THE DISCRETION TO DO THAT. AND ANOTHER OPTION, THAT I HOPE SOME LEGISLATURE WILL PICK UP, IS TO PASS A BILL IN CONGRESS TO RETURN THIS LAND TO GIVE IT TO THE TRIBES IN THAT AREA. AND PERHAPS WE CAN ALL PRESSURE TO TRY TO GET THAT SORT OF LEGISLATION. IF WE CAN'T GET RID OF THE MINING ACT, WHICH WE MUST GET RID OF, PERHAPS AT LEAST WE CAN DO THAT IN THIS CASE. BUT, IN ANY EFFECT, IT'S SIMPLY TOO DESTRUCTIVE. THE DOCUMENTS ARE BIASED AND INADEQUATE AS YOU'VE HEARD. SO WE RECOMMEND THE NO-PROJECT ALTERNATIVE. THANK YOU VERY

MUCH.

MS. BRIGGS: CINDY BURRASCANO.

CINDY BURRASCANO: HI, MY NAME IS CINDY BURRASCANO. I AM PERSONALLY OPPOSED TO THE PROJECT. I'M MOSTLY HERE TONIGHT AS PRESIDENT OF THE SAN DIEGO CHAPTER OF CALIFORNIA NATIVE PLANT SOCIETY. UNFORTUNATELY, WE HAVE NOT HAD TIME TO REVIEW THE CURRENT PROPOSAL FOR ITS ADEQUACY. BUT I CAN ASSURE YOU, WE ARE OPPOSED TO A MINE IN THIS AREA. I HAVE LOOKED OVER SOME OF THE RESTORATION PLANS, AND IT DOES NOT SEEM ADEQUATE TO RESTORE THE LAND TO ITS CONDITION. THIS PROJECT, ACTUALLY, HAS THE ATTENTION OF THE STATE ORGANIZATION BECAUSE OF ITS IMPACTS. WE'RE A 10,000-MEMBER ORGANIZATION AND THE STATE IS OPPOSED TO THE PROJECT IN THIS AREA. I WOULD LIKE TO REQUEST, SINCE B.L.M. IS THE OWNER OF THE LAND, THAT THEY DO SURVEYS THIS MONTH AND NEXT MONTH. NORMALLY WHEN A PROJECT COMES FORWARD, THERE'S NO OPPORTUNITY TO CHECK THAT THE AREA SURVEYING HAS TRULY BEEN ADEQUATE BECAUSE IT'S A ONE-SHOT DEAL. BUT IN THIS CASE, B.L.M. IS THE OWNER AND HAS A RESPONSIBILITY. RAINS WERE NOT GOOD LAST YEAR AND MOST OF THE DESERT DIDN'T BLOOM WELL. BUT RIGHT NOW IT IS BLOOMING, AND YOU DO HAVE THE OPPORTUNITY TO CHECK AND MAKE SURE THAT YOU KNOW WHAT THE RESOURCES ARE BEFORE YOU MAKE DECISIONS ABOUT HOW THEY'RE AFFECTED. THANK YOU.

MS. BRIGGS: PAT PARRIS.

PAT PARRIS: I'M GOING TO SUBMIT A WRITTEN STATEMENT.

MS. BRIGGS: OKAY. THANK YOU. BONNIE NACK.

RESPONSE TO THE TRANSCRIPT OF COMMENTS M015 MADE BY REVEREND DEVORE SMITH, AT THE PUBLIC MEETING ON THE DRAFT EIS/EIR, HELD IN LA MESA, CALIFORNIA, ON DECEMBER 10, 1997

Response to Comment M015:001: See Response to Comment D002:005.

Response to Comment M015:002: See Response to Comment D002:005.

Response to Comment M015:003: Comment noted.

Revisions to the Final EIS/EIR: None.

TO PUT A PIT MINE IN THE MIDDLE OF SUCH VALUABLE RECREATIONAL, HISTORICAL WILDERNESS TERRITORY? IT'S -- YOU DON'T WANT TO DESTROY THE ESSENCE OF WHAT RECREATION IS. RECREATION IS TO BE RESTORED, TO BE NEAR NATURE, TO BE IN SOLITUDE, TO BE WHERE IT'S PRISTINE. WHY WOULD YOU WANT TO DEGRADE THE EXISTING RECREATIONAL AREAS FOR A GROWING POPULATION WHO NEEDS THE AREA? SO I DO ASK THE B.L.M. TO VERY SERIOUSLY CONSIDER THIS PROBLEM. AND IF IT'S A RECREATIONAL PROBLEM, YOU KNOW, ANOTHER BUREAU, ASK THEM TO CONSIDER IT AS WELL. I THINK IT'S A EVERY SERIOUS ONE.

MS. BRIGGS: FRANK WHEAT. **M022**

FRANK WHEAT: I'M A RETIRED LAWYER AND AN OLD DESERT EXPLORER, AND I'D LIKE TO COMMENT ON TWO THINGS THAT HAVE NOT BEEN ADDRESSED IN THE D.E.I.S. AND TAKE A RATHER COLD LOOK AT THE LAW THAT APPLIES HERE. MR. SLAYTON SAID THAT HE WASN'T QUITE SURE WHETHER THE B.L.M. HAS AN OBLIGATION TO APPROVE THIS MINE OR NOT. THE D.E.I.S. SEEMS TO INDICATE THAT MAYBE IT DOES. THIS IS UNFORTUNATE BECAUSE THE B.L.M. HAS NO OBLIGATION WHATEVER TO APPROVE THIS MINE DESPITE THE 1872 MINING LAW. IT'S BEEN AMENDED IN VARIOUS WAYS WHICH GIVE AMPLE DISCRETION TO B.L.M. TO DENY THE MINE. OR, IF THEY DON'T DENY THE MINE, TO REQUIRE COMPLETE RECLAMATION INCLUDING THE BACK FILLING OF ALL THREE OPEN PITS. FIRST, IN THE FEDERAL LAND POLICY MANAGEMENT ACT, IT IS EXPRESSLY PROVIDED THAT THE SECRETARY OF INTERIOR, AND THAT MEANS, OF COURSE, THE B.L.M., HAS AN OBLIGATION, A REGULATION OR

001

002

OTHERWISE, TO TAKE ANY ACTION NECESSARY TO PREVENT UNNECESSARY OR UNDUE DEGRADATION OF THE LAND. THIS PHRASE HAS BEEN MENTIONED BEFORE. IT'S VERY CONFUSING FOR THE B.L.M. NOT TO GET THE DISTINCTION BETWEEN UNNECESSARY AND UNDUE. UNNECESSARY COULD MEAN, WELL, IT'S NOT NECESSARY. IT IS NECESSARY FOR AN OPEN-PIT GOLD MINE TO HAVE A PIT. SO UNNECESSARY DOESN'T HELP YOU VERY MUCH. BUT UNDUE MEANS, ACCORDING TO THE DICTIONARY DEFINITIONS: UNWARRANTED, INAPPROPRIATE, UNJUSTIFIED. UNDUE IS SOMETHING THAT THE B.L.M., UNFORTUNATELY, HASN'T PAID ANY ATTENTION TO AS AN EXPRESSED PROBLEM. AND UNDUE IS CRITICAL HERE. WHAT IS UNDUE DEGRADATION? WHAT IS INAPPROPRIATE DEGRADATION? IF YOU WERE MINING FOR A MINERAL WHICH WAS A CRITICAL SHORT SUPPLY AND NECESSARY TO NATIONAL DEFENSE, MAYBE IT WOULD NOT BE UNDUE DEGRADATION TO MINE IT BY AN OPEN PIT METHOD IF THAT WAS THE BEST WAY TO DO IT. IF IT WAS SOMETHING WHICH THE PUBLIC DIDN'T CARE ABOUT OR WASN'T TERRIBLY INTERESTED IN, THEN THAT WOULD PERHAPS NOT BE UNDUE DEGRADATION. IF IT WAS AN AREA THAT HAD NO OTHER SIGNIFICANCE OTHER THAN JUST BEING A FLAT AREA OF DESERT LAND RATHER THAN ONE THAT HAS ENORMOUS CULTURAL SIGNIFICANCE, THEN PERHAPS THAT WOULD NOT BE UNDUE DEGRADATION, AND IF IT WAS IN AN AREA WHICH HAD ALREADY BEEN ALMOST UTTERLY DESTROYED BY PREVIOUS MINING, THE BORON JOHANNESBURG AREA IN MOJAVE IS AN EXAMPLE. A NEW, EXPANDED OPEN PIT IS GOING IN UP THERE. NOBODY HAS REALLY OBJECTED TOO MUCH TO THAT BECAUSE EXPANSION OF AN OPEN PIT UP THERE

COULD VERY WELL BE DECLARED NOT UNDUE DEGRADATION. BUT CERTAINLY THAT IS A DIFFERENT ANIMAL HERE. THE B.L.M. HAS AMPLE AUTHORITY TO APPLY THAT SPECIFIC STATUTORY LANGUAGE.

0034 THE OTHER POINT HAS TO DO WITH SPECIAL PROVISIONS IN THE LAW APPLICABLE ONLY TO THE CALIFORNIA DESERT CONSERVATION AREA AND UNDER THE MINING -- UNDER THE CALIFORNIA DESERT PLAN, THIS AREA IS SPECIFICALLY DESIGNATED AS CLASS L OR LIMITED USE. SPECIFICALLY, IT IS TO BE USED WITH PRIORITY GIVEN TO THE PROTECTION OF SENSITIVE, NATURAL, SCENIC, ECOLOGICAL, AND CULTURAL RESOURCES. PLACING LIMITATIONS ON OTHER USES WHICH MAY CONFLICT WITH THESE VALUES. THIS IS SOMETHING THAT B.L.M. HAS SPECIFICALLY REQUIRED BY ITS OWN REGULATIONS TO APPLY. I THINK THEY SHOULD APPLY THEM IN THIS CASE.

MS. BRIGGS: CARL WHEAT.

MR. REED: ARE YOU TWO BROTHERS?

CARL WHEAT: FATHER/SON. I'M THE SON.

I CAME DOWN FROM VENTURA WHERE I LIVE THIS AFTERNOON. I CAME OUT HERE TO CALIFORNIA FROM COLORADO ABOUT 12 YEARS AGO. THAT'S ANOTHER STATE OF GREAT BEAUTY AND MUCH NATURAL RESOURCE AS WELL. THERE'S ONE MINING PROJECT THERE AT CLIMAX, COLORADO, THAT'S COMPARABLE TO THIS PROJECT IN THE AMOUNT OF EARTH MOVED AND HAS LEFT A GREAT SCAR ON THE LAND THERE AND ON THE MOUNTAINS. IT CAN BE SEEN ALL THE WAY FROM SEVERAL OF SURROUNDING MOUNTAIN RANGES AND THE VALLEY IN BETWEEN. IT IS AN UGLY SIGHT. THE PEOPLE IN THE STATE OF

COLORADO DON'T ALLOW OPERATIONS TO BE CARRIED OUT THE SAME TRAGIC WAY ANYMORE. THE SAME MINING COMPANY WHICH MINED AT CLIMAX HAS PROPOSED OTHER LARGE PROJECTS, BUT ON A COMPLETELY DIFFERENT BASIS. IT'S DONE WITH COMPLETE RESTORATION OF THE LAND INCLUDED IN THE PROJECT PROPOSAL AND THE E.I.S. AND THE COSTS TO RECLAIM THE LAND ARE INCLUDED IN THE PROJECT AND SET ASIDE AS THE PROJECT PROCEEDS. WE DON'T NEED TO SUBSIDIZE THE TAKING OF MINERALS FROM THE GROUND. THE MINING OF MINERALS THAT ARE NEEDED FOR USE HAS TO BE PLANNED BY THE PROJECT ECONOMISTS AND ENGINEERS TO MAKE SURE THEY CAN RECOVER THEIR INVESTMENTS. THE INCLUSION IN THE PLANS FOR COMPLETE RECLAMATION ARE A MINIMUM REQUIREMENT. THE PROJECT MUST PLAN FOR REFILLING HUGE PITS THAT IT PROPOSES TO OPEN UP FOR ALL THE EARTH THAT IS PILED UP IN LARGE HILLS. THESE FEATURES WOULD BE VISIBLE OVER A VERY LARGE AREA AND TO MORE AND MORE PEOPLE ON THIS PARTICULAR PROJECT AS POPULATION INCREASES. THE MINE PROJECT PROPOSAL MUST INCLUDE THESE MINIMUM COSTS FOR THIS RESTORATION. I WOULD PREFER TO LEAVE THIS MINERAL, IN THIS CASE GOLD, IN THE EARTH FOR THE PRESENT TIME AS IT'S NOT ONE THAT WE NEED FOR USE RIGHT NOW. AND THERE ARE MANY COMPETING INTERESTS FOR THE USE OF THIS LAND. THE INTEREST OF NATIVE AMERICANS. THE NEED FOR MINERALS. THE NEED FOR BEAUTY AND FOR OPEN SPACE AND PARKLAND AS POPULATION PRESSURES CONTINUE TO INCREASE SO RAPIDLY AND OTHER INTERESTS. SO LET US BALANCE ALL OF THESE INTERESTS. THANKS FOR THE OPPORTUNITY TO SPEAK.

RESPONSE TO THE TRANSCRIPT OF COMMENTS M022 MADE BY FRANK WHEAT, AT THE PUBLIC MEETING ON THE DRAFT EIS/EIR, HELD IN LA MESA, CALIFORNIA, ON DECEMBER 10, 1997

Response to Comment M022:001: See Response to Comment I010:002.

Response to Comment M022:002: See Response to Comment I010:002.

Response to Comment M022:003: See Response to Comment I010:002.

3 SPEAKERS AT PUBLIC HEARINGS PROVIDING SUBSTANTIVE COMMENTS AND RESPONSES TO THESE COMMENTS ON THE DRAFT EIS/EIR

SPEAKERS AT 12/11/98 PUBLIC HEARING

THANK YOU.

ELAYN BRIGGS: THANK YOU. **N019**

EDIE HARMON.

EDIE HARMON: EDIE HARMON.

001 TODAY I WENT TO BLM AND I GOT COPIES OF 95 PAGES OF MINING CLAIMS AND STARTED MAPPING THE SECTIONS WHERE GLAMIS GOLD AND OTHER COMPANIES HAVE PAID UP MINING CLAIMS IN THE AREA ALONG THE INDIAN PASS ROAD. THERE ARE SCORES OF THEM.

THIS PROJECT IN THE EIS IS GROSSLY MISLEADING BECAUSE IT FAILS TO DISCUSS THE POTENTIAL CUMULATIVE IMPACTS OF EXPANDING MINING AND WHAT WOULD HAPPEN ACTUALLY. AS WE KNOW FROM LOOKING AT THE OTHER MINES, PARTICULARLY THE MESQUITE MINE, THE ORIGINAL PROJECT WAS THE TIP OF THE ICEBERG. STARTED OUT SMALL AND YOU GET 2,000 MORE ACRES AND KEPT EXPANDING AND ACTUALLY TODAY IS SUPPOSED TO HAVE BEEN THE EEC INTO THE CHOCOLATE MOUNTAIN GUNNERY RANGE IMMEDIATELY NORTH OF THE MESQUITE MINE SO YOU HAVE TO LOOK AT IT AS THE TYPE OF THE ICEBERG.

YOU COME IN AND TRY TO GET A PLAN OF OPERATION AND YOU COME BACK TO REQUEST TO EXPAND AND EXPAND AND THERE'S NOTHING IN THIS DOCUMENT THAT TALKS ABOUT-- I SAW NOTHING IN TERMS OF CUMULATIVE, OF DISCUSSING THE DEEP WATERING PORTION OF THE GROUNDWATER PORTION FOR THE PITS TOGETHER WITH THE IMPACTS ON THE GROUNDWATER BASIN WITH PUMPING GROUNDWATER IN ADDITION TO DIVERSION OF THE STREAMS.

002 THE GROWTH INDUCING-- THE DISCUSSION ON GROWTH

INDUCING STATES THAT THE PROJECT'S EXPENDITURE WILL BE SPREAD BETWEEN CALIFORNIA, ARIZONA AND OTHER STATES SO SEEMS THERE'S NO EVIDENCE ECONOMY INCREASE WOULD OCCUR. I THINK WHAT HAS HAPPENED TYPICALLY IN THE PAST FROM UNION INSTRUCTIONS PEOPLE ARE BROUGHT IN FROM ELSEWHERE. THEY COME TEMPORARILY AND THEY LEAVE AND I MEAN PEOPLE THAT COULD MOVE FROM ONE HEAVY CONSTRUCTION SITE TO ANOTHER.

003 THE DISCUSSION ON BOTANICAL RESOURCES IS INADEQUATE AND ONCE AGAIN, THE REVEGETATION AS RECLAMATION IS INADEQUATE AND AN INADEQUATE ESTIMATE FOR THE COST. THE GROWING TALL POT PLANTS, PUTTING THEM IN SOME OF THE CREOSOTE SURVIVED AND YOU DON'T SEE ANYTHING LIKE THIS IN THIS PROJECT. I HAVE SEEN THE OPEN PIT MINES AT MESQUITE AND PICACHO, I HAVE SEEN THE ATTEMPTS AT REVEGETATION WHICH I CONCLUDE IN MY MIND WERE DISMAL FAILURES.

I RECENTLY SAW THE ONE AT PICACHO MINE AND I WAS TOTAL UNIMPRESSED WITH THAT. IT LOOKED LIKE MANY OF THE TREES HAD DIED. I DON'T KNOW WHAT THE PROBLEMS WERE BUT IT WAS NOT IMPRESSIVE.

004 IN TERMS OF LEACHING OPEN PIT MINES, A NUMBER OF PEOPLE HAVE TALKED ABOUT THE IMPACTS. IF YOU PUT A MINE IN AND REROUTE INDIAN PASS ROAD, YOU WILL BE LOOKING DOWN INTO A-- UP TOWERING WASTE ROCK PILES. HARDLY AN APPEALING ENTRYWAY TO AREAS THAT HAVE BEEN DESIGNATED ENVIRONMENTAL PROTECTION FOR WILDERNESS AREAS.

005 IN ANY EVENT, THE DAMAGE TO ARCHAEOLOGICAL

RESOURCES IS TOTALLY UNACCEPTABLE. BLM TALKS ABOUT SACRED GEOGLYPHS TO NATIVE AMERICANS AND THERE IS CERTAINLY EVEN A DECISION IN IDAHO WHERE MINING CLAIMS WERE DETERMINED TO BE NULL AND VOID AT THE REQUEST OF BLM GEOLOGISTS WHO FELT THE ESTHETIC AND GEOLOGICAL PURPOSES OF THE AREA FAR EXCEEDED THE VALUE OF ANY MATERIALS THAT COULD BE MINED ON THE SITE AND THAT WAS CONCURRED BY AN ADMINISTRATIVE.

0068 THE 1872 MINING LAW IS NOT THE PRIMER OF LAW OF THE LAND AND WITH REGARD TO CULTURAL RESOURCES, I HAVE HEARD A NUMBER OF COMMENTS. I DON'T THINK ANY PEOPLE IN THIS COUNTY OR ANYWHERE ELSE ARE UNDER ANY DUTY TO EXPLAIN THE DETAILS OF THEIR BELIEFS IN ORDER TO BE RESPECTED BY OTHERS. I WAS A PEACE CORPS VOLUNTEER WHEN I LIVED IN WEST AFRICA AND I DON'T CLAIM TO UNDERSTAND ALL THE DETAILS OF ISLAM AND THE PRACTICE OF ISLAM BUT THAT DOESN'T MEAN THAT I DID NOT RESPECT THAT. ALL THE RELIGIOUS TRAPPINGS, THE SITES, THE PRACTICES WERE CENTRAL TO THE VERY EXISTENCE AND WAY OF LIFE OF THOSE PEOPLE AND I THINK WE AS AMERICANS DESERVE AND CAN BE EXPECTED TO GIVE THE SAME CONSIDERATION TO PEOPLE IN THIS COUNTRY. WE DON'T HAVE TO SPEAK FOR ONLY OUR OWN PRACTICE. THE ARLINGTON NATIONAL CEMETERY IS NOT FOR JUST ONE BELIEF.

FOR MOST AMERICANS OUR RELIGIOUS PRACTICES AND SACRED LANDS ARE IN THE MIDDLE EAST. PEOPLE FOR THOUSANDS OF YEARS HAVE BEEN DESPERATELY TRYING TO PROTECT THE SITE, THE PHYSICAL GEOGRAPHY, AND THEY FEEL IT'S IMPORTANT TO THE PRACTICE OF THEIR RELIGION.

THE QUECHAN AND OTHER NATIVE AMERICANS HAVE MANY DIFFERENT PRACTICES AND IN SAN DIEGO QUITE A NUMBER HAVE SPOKE ABOUT THE CONCERN FOR CULTURAL RESOURCES AND WHAT IT MEANT TO THEM TO HAVE RESOURCES PROTECTED AND THE IMPORTANCE TO THEM OF RESPECTING THE RESOURCES AND THE TRADITIONAL AREAS FOR THE PEOPLE AND I THINK THAT'S SOMETHING WE ALL NEED TO THINK ABOUT.

007 I DO HOPE THAT BLM WILL DETERMINE THAT OTHER RESULTS WILL EXCEED THE VALUE OF GRANTING THE MINING COMPANY THE RIGHT TO MINE IN THIS AREA.

AND I WOULD ALSO REQUEST AN EXTENSION OF THE COMMENT DEADLINE.

ELAYN BRIGGS: THANK YOU.

ERIC SCHORIDER.

ERIC SCHORIDER: WHILE THERE IS A WHOLE BUNCH OF DIFFERENT ISSUES SURROUNDING THE MINE AND I DON'T THINK WE WILL GET ANYWHERE NEAR TO TALKING ABOUT A LOT OF THEM BUT ONE THING THAT'S KIND OF IMPRESSIVE ABOUT THIS MINE IS HOW DIFFICULT IT'S GOING TO BE. BACK DURING THE GOLD RUSH WHICH IS WHEN MOST OF THE PEOPLE WHO CURRENTLY LIVE IN CALIFORNIA OR A LOT OF THEIR ANCESTORS CAME OUT HERE, IT WAS BECAUSE OF GOLD AND THERE WAS A LOT OF IT. YOU KNOW, IF YOU HAD A SHOVEL AND A MULE AND YOU HAD A LITTLE BIT OF LUCK, YOU COULD GET MAYBE FIFTY OR A HUNDRED POUNDS OF GOLD IN ONE OR TWO YEARS, YOU KNOW, JUST DIGGING WITH A SHOVEL.

IN THIS MINE YOU'RE GOING TO BE DIGGING OUT THREE

RESPONSE TO THE TRANSCRIPT OF COMMENTS N019 MADE BY EDIE HARMON, PUBLIC MEETING HELD ON DECEMBER 11, 1997

Response to Comment N019:001: See Response to Comment I012:042.

Response to Comment N019:002: Comment noted. As stated in Section 4.1.10.2 of the Draft EIS/EIR, the Project is expected to create jobs for 120 full-time employees. The majority of these jobs would be expected to be filled by current residents of Imperial County, California or Yuma County, Arizona. As many as 225 workers may be required during initial construction, although only a portion of these would be working on the Project at any single time. During the Project life, additional construction projects may require up to 40 construction workers. Construction workers would most likely be obtained from a larger geographical area, but be on site for only a short time.

Revisions to the Final EIS/EIR: None.

Response to Comment N019:003: See Response to Comment E002:017.

Response to Comment N019:004: Comment noted.

Revisions to the Final EIS/EIR: None.

Response to Comment N019:005: See Responses to Comments A001:005 and H001:004.

Response to Comment N019:006: See Response to Comment H001:004.

Response to Comment N019:007: See Response to General Comment 001.

4 COMMENT LETTER NUMERICAL INDEX

4 COMMENT LETTER NUMERICAL INDEX

The following is a numerical order list of all of the individual comment letters and public hearing testimony received on the Draft EIS/EIR. The list is organized into the identified groups of comment authors described in Section 1, above.

No.	Date	FIRST NAME	LAST NAME	TITLE	COMPANY/AGENCY
A001	1/27/98	Barbara	Boxer	U.S. Senator	State of California
B001	4/12/98	Dave	Kelley	State Senator	State of California
B002	4/13/98	Jim	Battin	State Assemblyman	State of California
B003	4/13/98	Bill	Jones	Secretary of State	State of California
D001	12/9/97	Mike	Jackson, Sr.	Tribal President	Quechan Tribal Council, Fort Yuma Indian Reservation
D001	12/9/97	Pauline	Owl	Chairperson	Quechan Cultural Committee, Fort Yuma Indian Reservation
D002	4/13/98	Keeny	Escalanti, Sr.	Vice President	Quechan Tribal Council, Fort Yuma Indian Reservation
D002	4/13/98	Pauline	Owl	Chairperson	Quechan Cultural Committee, Fort Yuma Indian Reservation
D003	4/13/98	Keeny	Escalanti, Sr.	Vice President	Quechan Tribal Council, Fort Yuma Indian Reservation
D003	4/13/98	Pauline	Owl	Chairperson	Quechan Cultural Committee, Fort Yuma Indian Reservation
E001	3/19/98	Deanna M.	Wieman	Deputy Director	United States Environmental Protection Agency, Region IX, Cross-Media Division
E002	4/13/98			Assistant Field Supervisor	United States Fish and Wildlife Service, Carlsbad Field Office
E003	1/5/98	T.A.	Manfredi	Community Planner	United States Marine Corps Air Station Yuma
F001	2/26/98	Jason	Marshall	Assistant Director	California Department of Conservation, Office of Governmental and Environmental Relations
F002	3/31/98	Curt	Taucher	Regional Manager	California Department of Fish and Game, Region 5
G001	12/26/97	Jacques-Andre	Istel		Town of Felicity
G002	2/26/98	Laura J.	Simonek	Principal Environmental Specialist	Metropolitan Water District of Southern California, Office of the General Manager
G003	3/26/98	Jacques-Andre	Istel	Mayor	Town of Felicity
G004	1/16/98	J. David	Stein	Manager, Performance Assessment and Implementation	Southern California Association of Governments
G005	2/19/98	Tom	Levy	General Manager, Chief Engineer	Coachella Valley Water District
H001	No date	Lorey	Cachora	Consultant and Tribal Member	Quechan Cultural Committee, Fort Yuma Indian Reservation
H002	2/6/98	Douglas	Torres	Chairman, Natural Resources Standing Committee	Gila River Indian Community
H002	2/6/98	Barnaby	Lewis	Chairman, Cultural Resources Advisory Committee	Gila River Indian Community
H003	4/13/98	Pauline	Owl	Chairperson	Quechan Cultural Committee, Fort Yuma Indian Reservation
H004	No date	Pauline	Owl	Chairperson	Quechan Cultural Committee, Fort Yuma Indian Reservation
I003	12/15/97	Steve	Baumann	General Manager	Glamis Imperial Corporation
I002	1/23/98	David M.	Chambers, Ph.D.		Center for Science in Public Participation
I002	1/23/98	James	Kuipers, P.E.		Center for Science in Public Participation
I003	2/19/98	Dan	Purvance		Glamis Imperial Corporation
I004	2/20/98	Tom	Myers, Ph.D.	Hydrologic Consultant	
I005	2/22/98	Bill	Ellis	Communications Director	Desert Survivors
I004	2/20/98	Carol	Knoy	State President	PFUSA California
I002	2/25/98	Byron F.	Lindsley, Jr.	Director	Mountain Defense League
I003	2/26/98	Jim	Wilson		Laser, Inc.
I009	2/26/98	Lisa	Seneca		RB Riggan and Associates
I012	4/10/98	Roger	Flynn, Esq.		Western Mining Action Project
I011	4/12/98	James	Wilson		Laser, Inc.
I013	4/12/98	Courtney Ann	Coyle, Esq.	Attorney At Law	
I013	4/13/98	Aimee	Boulanger		Mineral Policy Center
I013	4/13/98	Jim	Harmon	Chair	Sierra Club, San Diego Chapter
I013	4/13/98	Norbert	Riedy		The Wilderness Society
I013	4/13/98	Paul	Spitler		California Wilderness Coalition
I014	4/13/98	Fred	Cagle, Ph.D., PA		Tijuana River National Estuarine Research Reserve
I015	4/13/98	Lissa L.	Adams	Board Member	The Desert Protective Council
I016	12/14/97	Edie	Harmon	Chair	Sierra Club, San Diego Chapter

No.	Date	FIRST NAME	LAST NAME	TITLE	COMPANY/AGENCY
I018	2/6/98	Steve	Baumann	General Manager	Glamis Imperial Corporation
I018	2/12/98	Steve	Baumann	General Manager	Glamis Imperial Corporation
I019	2/16/98	Steven L.	Hartman	Director	California Native Plant Society
I020	2/20/98	James H.	Conley, Esq.	Vice President	North Santiam Watershed Council
I021	2/25/98	James H.	Conley, Esq.	Vice President	North Santiam Watershed Council
I023	3/8/98	Stan	Haye	Chair	Sierra Club, California/Nevada RCC Mining Committee
I023	3/18/98	Carolyn	Chase	Chair, Executive Committee	Sierra Club, San Diego Chapter
I023	4/5/98	Douglas W.	Allen	Vice President	The Desert Protective Council, Inc.
I020	4/7/98	Elden	Hughes		California Desert Protection League
I026	4/10/98	Norbert	Riedy	Director of Conservation Programs	The Wilderness Society
I027	4/11/98	Stan	Haye	Chair	Sierra Club, California/Nevada RCC Mining Committee
I023	4/16/98	Jim	Conley	Co Chair of the Conservation Committee	Salem Audubon Society
I020	1/6/98	Justin	Farmer	General Manager	California Indian Arts Association
I030	1/27/98	Barbara	Hopkins	President	Tulare County Audubon Society
I031	2/20/98	Carlos	Da Rosa	Senior Research Associate	Mineral Policy Center
I031	2/20/98	C.D.	Strout, Ph.D.		Alpine Land Preservation Action Committee
I033	2/24/98	Elden	Hughes		Sierra Club California/Nevada Regional Conservation Desert Committee
I035	4/12/98	Daniel D.	Trout	President	Palomar Chapter, American Indian Science and Engineering Society
I035	4/13/98	Jeffrey A.	Berman		National Wildlife Federation, Rocky Mountain Natural Resource Center
I036	4/13/98	James H.	Pester	Executive Secretary	Imperial County Building and Construction Trades Council
I035	4/13/98	James H.	Pester	Executive Secretary	Imperial County Building and Construction Trades Council
I038	1/15/98	Catherine	O'Riley	Board of Directors	Desert Survivors
I038	1/23/98	Anne	Stine, M.A., MFCC		Wilderness Rites
I040	1/27/98	Tiberio R.	Esparza	President	Esparza's Welding and Machine Shop
I042	1/30/98	Gerald H.	Meral	Executive Director	Planning and Conservation League
I042	2/16/98	Van K.	Collinsworth	Executive Director	Preserve Wild Santee
I043	2/20/98	Phillip P.	Heald	President	El Centro Chamber of Commerce & Visitors Bureau
I040	2/20/98	Fred M.	Knechel	Executive Director	Calexico Chamber of Commerce
I025	2/25/98	Johanna H.	Wald		Natural Resources Defense Council
I046	2/26/98	Valerie	Smith	President	Brawley Chamber of Commerce
I042	2/26/98	Kimla	Estabillo	President	Imperial Chamber of Commerce
I042	4/10/98	Barbara J. & Tom	Hamilton		Hamilton Instrument Service
I025	4/8/98	Kimla	McDonald	Vice President	The Cultural Conservancy
I050	2/20/98	Randy	Smith		Road Machinery Co.
I051	2/26/98	Mark	Redder		Road Machinery Co.
J001	No date	Lee Ann	Renfro		
J0-2	4/3/98	Robert T.	Fisher, Ed.D., J.D.		
J003	1/27/98	Edward	Kimura		
J004	2/12/98	Dorothy and Ronald	Wilke		
J005	2/19/98	Richard	Hitney		
J0-6	2/26/98	Royce B.	Riggan, Jr.	Principal	RB Riggan and Associates
J007	4/3/98	Eric	Scheri		
J008	4/3/98	Tim	Haklaaw		
J009	4/12/98	Melanie	Scheri		
J010	4/13/98	Linda L.	Brooks		
J011	No date	Chuck	Fisher		
J012	2/98	Bill	Evans		
J013	12/1/97	Susan	de Falla		
J014	12/3/97	Kevin	Emmerich		
J015	12/22/97	Don	Baker		
J016	1/20/98	Alice	Tseng		
J017	1/21/98	Bryan	Gordon		
J018	2/6/98	Paul	Slayton		
J019	2/9/98	Paul C.	Harmon		
J020	2/9/98	Paul C.	Harmon		
J021	2/10/98	Francis M.	Wheat		

No.	Date	FIRST NAME	LAST NAME	TITLE	COMPANY/AGENCY
J022	2/20/98	Lissa L.	Adams		
J023	2/23/98	David	English		
J024	2/24/98	Ernest	Trigg		
J025	2/25/98	John	Hildebrand		University of California, San Diego
J026	3/8/98	Claudia	Burton		
J027	3/8/98	Claudia	Burton		
J028	4/11/98	John	von Werthof		
J029	4/12/98	Harriet	Allen		
J030	No date	Anastasia	Vellas		
J031	2/13/98	Bill	Stewart		
J032	No date	Lance R.	Watson		
J033	No date	Hanbin	Du		
J034	No date	Leone	Hayes		
J035	No date	Jessica	Pusser		
J036	No date	Claire	Englander		
J037	No date	Betty	Mason		
J038	No date	Dafna	Kory		
J039	12/97	Arnold Charles	Noriega		
J040	2/17/97	Jeanne	Davies		
J041	12/2/97	Bonnie	Nack. Ed.D.		
J042	12/2/97	Joyce	Alpert		
J043	12/2/97	Bonnie	Nack. Ed.D.		
J044	12/2/97	Iva L.	Geisinger		
J045	12/6/97	Theresa	Adams		
J046	12/6/97	Susan	Sharpe, M.A.		
J047	12/15/97	Rozella W. & Donald L.	Stout		
J042	12/18/97	Constance & Bruce	Newgard		
J049	12/25/97		Unknown*		
J050	12/25/97	John	Dolley		
J056	12/25/97	John	Dolley		
J052	12/27/97	Crystal	Clayton		
J056	1/5/98	Colette	Dupont		
J056	1/5/98	Judith	Barney		
J055	1/5/98	David	Crawford		
J056	1/10/98	Michelle	Nack		
J056	1/12/98	Stanley	Kekona		
J056	1/12/98	Stephanie	Antalocy, Ph.D.	Department of English	California State University, Sacramento
J055	1/16/98	Gloria	Piccadilly		
J065	1/16/98	Lily	Ruderman		
J067	1/16/98	Crystal	Switzer		
J062	1/16/98	Gloria	Piccadilly		
J069	1/16/98	Amelia	Carlson		
J066	1/16/98	Rachel	Heberly		
J065	1/16/98	Rachel	Heberly		
J066	1/16/98	Amelia	Carlson		
J067	1/17/98	Jessica	Pusser		
J068	1/17/98	Crystal	Switzer		
J069	1/17/98	Russell	McGee		
J070	1/18/98	John K. and Martha R.	James		
J071	1/19/98	Alan L.	White		
J072	1/22/98	Dean H.	du Vernet		
J073	1/22/98	John	Ulloth		
J074	1/22/98	John E.	Collins, Ed.D.		
J075	2/3/98	Ron	Harton		
J076	2/4/98	Gloria	Piccadilly		
J077	2/4/98	L.D.	Frenzel		
J078	2/6/98	Christina A.	Wolfe		
J079	2/6/98	Douglas	Stein		
J080	2/9/98	Cathy	O'Leary		

No.	Date	FIRST NAME	LAST NAME	TITLE	COMPANY/AGENCY
J086	2/9/98	John	Carey		
J086	2/9/98	Alexander	Censor, M.S.		
J082	2/12/98	Iris	Edinger		
J083	2/18/98	Susan	Zwinger		
J086	2/12/98	Susan	Zwinger		
J086	2/12/98	Allen	Mains		
J086	2/18/98	Bonnie Bess Worline	King		
J082	2/16/98	Andrew	Jones		
J086	2/16/98	Sam	Messin		
J084	2/17/98	Jane	Higginson		
J092	2/12/98	Virginia	Vogel		
J093	2/18/98	Marina	Ramirez		
J092	2/18/98	M.	Kolb		
J093	2/18/98	Ronald J.	Brennan		
J093	2/18/98	Steven	Regalado		
J095	2/18/98	Cynthia A.	Brennan		
J098	2/18/98	Judy	Brantman		
J098	2/18/98	Elizabeth A.	Thompson		
J098	2/19/98	John P.	Thompson		
J099	2/19/98	Gloria	Piccadilly		
J100	2/18/98	Jeanne	Davies		
J101	2/20/98	Dawn	Negleman		
J102	2/20/98	Jeffrey D.	Welch		
J103	2/22/98	Polly	Ogden		
J109	2/22/98	Ingrid	Crickmore		
J105	2/22/98	Larry	Hendrickson		
J106	2/23/98	Diana B.	Arias		
J102	2/20/98	Rina	Hirai		
J105	2/23/98	Sandra	Purdue		
J109	2/23/98	Janet A.	Andersen, Ph.D.		
J117	2/20/98	Tony L.	Sims		
J117	2/24/98	Camille	Armstrong		
J112	2/25/98	Marla J.	Lewis		
J113	2/25/98	Charles and Wenda	Alvarez		
J113	2/25/98	Nicole	Whiting		
J116	2/20/98	Bryn	Anderson		
J116	2/26/98	Alice	Schori		
J117	2/26/98	Alice	Schori		
J116	2/26/98	Calvette L.	Hart		
J117	2/26/98	Dorsia	O'Dell		Stone Apple Farm
J121	2/26/98	Alex	Hinds		
J121	2/27/98	Myra	Sayler		
J102	3/6/98	Irving	Schwager		
J123	3/12/98	Bonnie	Gendron		
J124	3/14/98	Blanche	Negleman		
J125	3/26/98	Linne	Gravestock		
J126	3/27/98	Donald A.	Harris	Project Geologist - Mesquite Gold Mine	Newmont Gold Company
J117	3/30/98	Jan & Orv	O'Neil		
J124	3/30/98	Herman T.	Schneider, Jr.		Off-Highway Recreation Consultant
J121	3/30/98	Emilie A.	Strauss		
J130	3/30/98	Theresa	Adame		
J131	4/5/98	Howard J.	Whitaker		
J132	4/8/98	Nikki P.	Scheinost		
J133	4/9/98	Anna	Rongen		
J133	4/9/98	Dean H.	du Vernet		
J134	4/10/98	Ernest A.	Bragg		
J135	4/12/98	Stephen	Ingram		
J136	4/13/98	Patricia	Seek		
J137	4/13/98	Louis G.	Mazei		

No.	Date	FIRST NAME	LAST NAME	TITLE	COMPANY/AGENCY
J138	4/14/98	Kristi	Watts		
J139	4/14/98	Kristi	Watts		
J140	No date	Mark B.	Purdom		
J147	No date	Karen	Malley		
J142	No date	Anne	Fellers		
J143	No date	J. Courtney	Harmon		
J144	No date	Ursula	House		
J145	No date	Susan	Bradfield		
J147	No date	Elaine M.	Semsper		
J147	No date	Deborah	Westcott		
J148	No date	Deborah	Westcott		
J147	No date	Debbie	Westcott		
J150	No date	Steve	McNeill		
J151	No date	Deborah	Westcott		
J151	No date	Marianna	Rivinus		
J153	No date	Corry	Mason		
J151	No date	James R.	Burnett		
J185	No date	Dean	Weingarten		
J150	No date	Linda	Haugsness-White		
J151	No date	Stathia	Annis		
J163	No date	Ben	Greenlee		
J159	No date	Melinda	Nevins		
J160	No date	Melinda	Nevins		
J161	No date	Ari	Marsh		
J147	No date	Ari	Marsh		
J163	No date	Butch	Lacey		
J164	No date	Cherie L.	Boyle		
J155	11/7/97	Linda	Jacobs		
J164	11/29/97	Carolyn B.	Jennings		
J161	11/29/97	George	Hahn		
J163	11/30/97	Robert	Harwood		
J169	12/5/97	D.P.	Rinaldi		
J170	12/5/97	Helen	Wagemond		
J171	12/6/97	Sylvia	Troy		
J172	12/9/97	Anastasia	Vellas		
J163	12/10/97	Joseph	Puzo		
J165	12/12/97	Thomas M.	Rotter		
J163	12/18/97	Donald C.	Lee, Ph.D.		
J170	12/18/97	C.R.	Fowler		
J177	12/18/97	Donald C.	Lee, Ph.D.		
J163	12/24/97	Brenda	Crandell		
J165	12/25/97	Mike	Higgins		
J165	12/26/97	Joe	Calavita		
J151	12/26/97	Bernadine	Lohman		
J147	12/26/97	Joe	Calavita		
J163	12/27/97	Mike	Horn		
J164	12/27/97	Mannie	Kugler		
J185	12/28/97	Carol Billings	Hora		
J185	1/1/98	Vijaya	Joubert		
J151	1/1/98	Joseph	Kotzin		
J188	1/2/98	Frank	Olsen		
J189	1/2/98	Edwin & Donna	Gookin		
J190	1/5/98	Barbara	Morel		
J191	1/5/98	T.K.	Wang		
J192	1/8/98	Jim	Yarbrough		
J193	1/9/98	Cecilia Marie	Cools		
J194	1/10/98	Pete	Yamagata		
J196	1/12/98	Betty	Matyas		
J197	1/12/98	Elizabeth	Forgey		

No.	Date	FIRST NAME	LAST NAME	TITLE	COMPANY/AGENCY
J199	1/17/98	Diane	Smith		
J199	1/19/98	Diane	Smith		
J200	1/19/98	Jo Ann	Michetti		
J201	1/19/98	Rose Marie	LaPorta		
J202	1/19/98	Deirdre and Randy	Rand		
J203	1/16/98	Virginia M.	Peterson		
J204	1/18/98	Lynn	Ryan		
J2[illegible]	1/18/98	Marcus	Lipkind		
J206	1/17/98	Howard J.	Whitaker		
J2[illegible]	1/17/98	Sylvia	Gregory		
J2[illegible]	1/18/98	Julian	Dautremont-Smith		
J209	1/19/98	Karen	Kraves		
J210	1/19/98	Joy	Mockbee, MD, MPH		
J21[illegible]	1/19/98	John R.	Swanson		
J2[illegible]2	1/19/98	Frances V.	Martin		
J213	1/19/98	Judy	Wickman		
J21[illegible]	1/20/98	Gwenda	Humphreys		
J215	1/20/98	Don	Morrill		
J215	1/20/98	Karen	Lussier		
J241	1/20/98	Olive	Mayer		
J218	1/21/98	Marcia	Kolb		
J21[illegible]	1/21/98	David G.	Baxter		
J220	1/21/98	John D.	Hanson		
J221	1/22/98	Dennis	Coules		
J2[illegible]2	1/22/98	Thomas J.	Suk		
J229	1/22/98	James	Denison		
J224	1/24/98	Meral	Aker		
J225	1/24/98	Robin L.	Schaeffer, Ph.D.		
J226	1/24/98	Thomas M.	Rotter		
J221	1/24/98	Lynne	Meyer		
J226	1/24/98	Joyce	Wisdom		
J229	1/24/98	Teresita	Gutierrez		
J230	1/24/98	Clare	Kelemen		
J241	1/24/98	Alan	Beard		
J232	1/24/98	Susan	Lang		
J233	1/24/98	Nora	Mered		
J234	1/26/98	Rein	Attemann		
J241	1/24/98	Teresa	Weiner		
J241	1/24/98	Rein	Attemann		
J241	1/29/98	Beth	Allguier		
J241	1/30/98	Ann Elise	Johnson		
J230	2/2/98	Jack & Donna	Nordstrom		
J246	2/2/98	Carol A.	Wiley		
J241	2/5/98	Debbie	Martin		
J2[illegible]2	2/6/98	Ruth	D'Spain		
J233	2/6/98	Rodger	Silvers		
J244	2/9/98	James	Sakituna		
J241	2/10/98	Marilyn	Moskowitz, MFCC/LCSW		
J246	2/12/98	Laurie	DiNoto		
J241	2/12/98	James	Biggerstaff		
J241	2/12/98	Mike	Vandevelde		
J249	2/12/98	James	Yates		
J250	2/12/98	Mike	Vandevelde		
J251	2/13/98	J.P. and Mary E.	Melchionne		
J252	2/13/98	Kay	Stewart		
J253	2/13/98	Gloria	Markley		
J254	2/13/98	Amy	Creekmur		
J255	2/14/98	Dale M.	Marler		
J256	2/14/98	John W.	Markley		

No.	Date	FIRST NAME	LAST NAME	TITLE	COMPANY/AGENCY
I257	2/14/98	C.C.	Gorman		
I258	2/17/98	Tad L.	Zavodsky		
I259	2/17/98	Stella	Jaramillo		
I260	2/17/98	R.D.	Frazier		
I261	2/18/98	Ruben G.	Quiroz		
I262	2/18/98	Danny R.	Miller		
I263	2/18/98	Dale R.	Larabee		Larabee and Loadman
I264	2/18/98	Linda	Brooks		
I265	2/18/98	Thomas C.	Stout		
I266	2/18/98	Jesus	Arrizon		
I267	2/18/98	Santos E.	Ramirez		
I268	2/18/98	Johnny	Sellers		
I269	2/18/98	Pulin	Modi		
I270	2/18/98	Alejo Arrizon	Pena		
I271	2/17/98	Santos E.	Ramarez		
I273	2/18/98	Francisco	Rodriquez		
I273	2/18/98	Merlene	Pendergrass		
I273	2/18/98	Douglas Keith	Miller		
I275	2/18/98	Eugene	Woods		
I276	2/18/98	Arturo	Ayala		
I280	2/18/98	Rogelio	Cabrera		
I273	2/18/98	Stuart H.	Jones		
I280	2/18/98	Duane	Stonehart		
I280	2/18/98	Rafael	Cardiel		
I280	2/21/98	Mike & Meg	Shockley		
I283	2/23/98	Paul	Von Blum		
I283	2/21/98	Diane	Janissen		
I295	2/20/98	Ronald D.	Foye		
I287	2/21/98	Tom	Negleman		
I288	2/21/98	Elisabeth M.	McCarthy		
I289	2/21/98	Ken & Debbie	McMaster		
I290	2/21/98	Richard	Benson		
I290	2/22/98	Elizabeth N.	Ward		
I292	2/22/98	John	Glascock		
I283	2/22/98	Lena E.	Bragg		
I295	2/23/98	James P.	Ricker		
I295	2/23/98	Robert	Sanregret		
I295	2/23/98	Richard	Anderson		
I292	2/21/98	Margaret A.	Bragg		
I295	2/24/98	Craig & Karen	Pauly		
I295	2/24/98	Gregory	Brown		
I299	2/24/98	Martha M.	Neal-Brown		
I306	2/24/98	Dennis	Laybourn		
I301	2/24/98	Richard	Benson		
I302	2/25/98	Monica	Carrillo		
I303	2/25/98	Michelle	Dowling		
I304	2/25/98	Sem	Fay		
I305	2/25/98	Guadalupe	Montejano		
I306	2/23/98	Letica?	Gyna?		
I307	2/25/98	Illegible?	Illegible?		
I305	2/25/98	Gabby	Dominguez		
I309	2/25/98	Jim	Kennedy		
I310	2/25/98	Cindy	Lizarraga		
I311	2/25/98	Cindy	Murguia		
I312	2/25/98	Evelyn	Dowling		
I313	2/25/98	Adelaide	Avitia		
I314	2/25/98	Priscilla	Heredia		
I315	2/25/98	Brenda	Navarro		
I316	2/25/98	David R.	Boller		

No.	Date	FIRST NAME	LAST NAME	TITLE	COMPANY/AGENCY
I317	2/25/98	Paula L.	Headington-Teal		
I318	2/25/98	Cindy	Gastelum		
I319	2/25/98	Jacqueline	Regalado		
I320	2/27/98	Jack	Schoop		
I320	3/2/98	Vernon P.	Nowell		
I322	3/4/98	Dulce J.	Twist		
I323	3/4/98	Cassie	Beals		
I329	3/12/98	Richard	Robertson		
I329	3/15/98	Fred & Caryn	Rich		
I329	3/25/98	Rudy L.	Morales		
I329	3/27/98	Julia	Lewis		
I329	3/30/98	Mary Claire	Adams		
I329	3/30/98	Ramon C.	Camacho		
I330	3/30/98	Jeffrey D.	Black		
I331	3/30/98	John S.	Peck		
I331	3/30/98	David	Burch		
I333	3/30/98	Dale A.	Loucks		
I331	3/30/98	Tori	Roberts		
I345	3/30/98	Edward	Scheuerell		
I331	3/30/98	Paul	Menkes		
I331	3/4/98	Susan	Massey		
I331	3/4/98	Mabel F.	Stenstrom		
I345	4/2/98	Neal H.	Datkal		
I346	4/2/98	Caroline	Courts		
I341	4/2/98	Karl	Rosenquist		
I342	4/2/98	Karl	Rosenquist		
I318	4/3/98	Preston J.	Arrow-weed		
I344	4/3/98	Chris & Billie	Padilla		
I345	3/4/98	Craig	Deutsche		
I341	3/4/98	Phillip	Hoehn		
I347	3/4/98	Sally Robb	McGirk		
I318	4/6/98	Tim	Conroy		
I345	4/3/98	Jim	Leonard		
I350	4/3/98	Ervin M.	Wilson		
I351	4/11/98	John Joseph	Dziak		
I352	4/12/98	Tracey & Mark	Rawlings		
I354	4/13/98	Tamara J.	Johnson		
I354	4/24/98	Ruth B.	Whipple		
I355	4/7/98	Quentin and Ellen	Burke		
K001A	1/12/98	Kathleen and David	Roth		
K001B	No date	Lisa	Henberger		
K002	3/27/98	Steve	Bean		
K003A	4/12/98	Kathleen and David	Roth		
K003A	1/20/98	Lisa	Henberger		
K006	1/21/98	Steve	Bean		
K008	No date	Linda M.	Beck		
K006	No date	Emilia & Dean	Bland		
K008	3/4/98	Mha Atma Singh	Khalsa		
K008	3/22/98	Violet	Oaklander		
K006	4/24/98	Don	Strachan		
K010	3/25/98	Mitch & Cathie	Lamm		
K011	3/25/98	Janet	Tunick		
K012	3/25/98	Felice	Karman		
K012	3/25/98	John	Cogswell, Ph.D.		
K013	3/25/98	Jane	Hunt		
K014	3/25/98	Carolyn	Alvarez		
K015	3/25/98	Suzanne	Licht		
K016	3/25/98	Jean	Sward		
K017	3/26/98	Suzanne	Beers		

No.	Date	FIRST NAME	LAST NAME	TITLE	COMPANY/AGENCY
K018	3/26/98	Jack Robert	Burrow		
K019	3/26/98	Bill	Denneen		
K020	3/26/98	Berk	Snow		
K021	3/30/98	Santokh Singh & Suraj Kaur	Khalsa		
K022	3/30/98	Hoyt	Johnstone		
K023	3/31/98	Walfredo & Carolina	Reyes		
K024	3/31/98	Joan	Birch		
K024	3/31/98	Jim	Rogoff		
K025	3/31/98	Martha B.	Eaton		
K026	3/31/98	Deborah	Lang		
K027	3/31/98	Ken & Sandra	Garber		
K028	3/31/98	Allison	Flyer		
K029	3/8/98	Cheryl	Smith		
L001	No date	Gloria	Piccadilly		
L002	No date	Gloria	Piccadilly		
L003	2/25/97	Melanie	Schori		College of the Atlantic
L004	2/19/98	Gloria	Piccadilly		
L005	4/2/98	Gloria	Piccadilly		
L006	4/6/98	Karl	Rosenquist, Ph.D.		Imperial Valley College
L007	4/7/98	Jeremy	Arling		
L008	4/7/98	Jeremy	Arling		
L009	2/1/98	Joel D.	Despain		
L010	2/27/98	Bill	Coverley		
M001	12/10/97	Edie	Harmon		
M002	12/10/97	Louise	Murphy		
M003	12/10/97	James E.	Harmon		
M004	12/10/97	Eric	Schori		
M005	12/10/97	Carolyn	Jennings		
M006	12/10/97	Craig	Kieralff		
M007	12/10/97	Terry	Barnett		
M008	12/10/97	Nick	Ervin		
M009	12/10/97	Joyce	Alpert		
M010	12/10/97	Jonathan	Waggoner		
M011	12/10/97	Daniel D.	Trout		
M012	12/10/97	Susan	Sharpe		
M013	12/10/97	Jeanne	Davies		
M013	12/10/97	Terry	Weiner		
M013	12/10/97	Devore	Smith		
M013	12/10/97	Jim	Ricker		
M017	12/10/97	Pat	Slayton		
M013	12/10/97	Norma	Sullivan		
M013	12/10/97	Cindy	Burrascano		
M020	12/10/97	Pat	Parris		
M021	12/10/97	Bonnie	Nack		
M022	12/10/97	Frank	Wheat		
M023	12/10/97	Carl	Wheat		
M023	12/10/97	Pat	Harris		
M026	12/10/97	Allen	Harriet		
M026	12/10/97	Camille	Armstrong		
M027	12/10/97	Debbie	Westcott		
M028	12/10/97	Dave C.	Stout		
M029	12/10/97	Preston J.	Arrow-Weed		
M030	12/10/97	Lorey	Cachora		
M031	12/10/97	Barbara	Diederichs		
M032	12/10/97	Daniel	Patterson		
M033	12/10/97	Mike	Guerreiro		
M034	12/10/97	William	Grover		
M035	12/10/97	Jeanne	Patton		
M036	12/10/97	Ryan	Springer		

No.	Date	FIRST NAME	LAST NAME	TITLE	COMPANY/AGENCY
M038	12/10/97	Bill	Evans		
M038	12/10/97	Elizabeth	Forbes		
M039	12/10/97	Michael	Mathews		
M040	12/10/97	Mira	Greene		
M041	12/10/97	Geoffrey	Smith		
M042	12/10/97	Dave	Paquin		
M043	12/10/97	Calvette	Hart		
N001	12/11/97	Anastasia	Vellas		
N002	12/11/97	Mark	Purdon		
N003	12/11/97	Keith	Miller		
N004	12/11/97	Robert	Frazier		
N005	12/11/97	Butch	Lacey		
N006	12/11/97	Steve	Baumann		
N007	12/11/97	Lidia	Walker		
N008	12/11/97	Tim	Haldane		Chemgold
N009	12/11/97	Bryan	Quijada		
N010	12/11/97	James	Harmon		
N011	12/11/97	Roz	Stout		
N012	12/11/97	Jay	von Werlhof		
N012	12/11/97	Cecil	Stanley		
N013	12/11/97	Craig	Smith		
N013	12/11/97	Jeffrey D.	Welch		
N015	12/11/97	Karen M.	Collins		
N018	12/11/97	Brad	Langner		
N018	12/11/97	Lee Ann	Renfro		
N019	12/11/97	Edie	Harmon		
N020	12/11/97	Eric	Schorider		
N021	12/11/97	Vincent	Zazueta		
N022	12/11/97	Lorey	Cachora		
N023	12/11/97	Preston	Arrowweed		
N024	12/11/97	Mark	Hadl		
N025	12/11/97	Iva	Geisinger		
N026	12/11/97	Harold	Brown		
N027	12/11/97	Gary	Boyle		
N028	12/11/97	Jonathan	Waggoner		
N029	12/11/97	Bob	Filler		
N030	12/11/97	LeRoy	Lopez		

5 COMMENT LETTER AUTHOR INDEX

5 COMMENT LETTER AUTHOR INDEX

The following is an alphabetical list of all of the individuals that submitted comments on the Draft EIS/EIR. In cases where individuals submitted more than one comment letter and/or submitted one or more comment letters and provided testimony at one of the public meetings on the Draft EIS/EIR, separate multiple entries for those individuals are provided in the list.

LAST NAME	FIRST NAME	TITLE	COMPANY/AGENCY	Date	No.
		Assistant Field Supervisor	United States Fish and Wildlife Service, Carlsbad Field Office	4/13/98	E002
Adams	Lissa L.	Board Member	The Desert Protective Council	4/13/98	J015
Adams	Lissa L.			2/20/98	J022
Adams	Mary Claire			3/30/98	J328
Adams	Theresa			12/6/97	J045
Adams	Theresa			3/30/98	J130
Aker	Meral			1/29/98	J224
Allen	Douglas W.	Vice President	The Desert Protective Council, Inc.	4/5/98	J024
Allen	Harriet			4/12/98	J029
Allgaier	Reie			1/29/98	J237
Alpert	Joyce			12/10/97	M009
Alpert	Joyce			12/2/97	J042
Alvarez	Carolyn			3/25/98	K014
Alvarez	Charles and Wenda			2/25/98	J113
Anderson	Bryn			2/25/98	J115
Anderson, Ph.D.	Janet A.			2/23/98	J109
Anderson	Richard			2/23/98	J296
Annis	Stathis			No date	J157
Antolocy, Ph.D.	Stephanie	Department of English	California State University, Sacramento	1/12/98	J058
Arias	Diana B.			2/23/98	J106
Arling	Jeremy			4/7/98	L007
Arling	Jeremy			4/7/98	L008
Armstrong	Camille			12/10/97	M026
Armstrong	Camille			2/24/98	J111
Arrizon	Jesus			2/18/98	J266
Arrow-weed	Preston J.			4/3/98	J343
Arrow-Weed	Preston J.			12/10/97	M024
Arrowweed	Preston			12/11/97	N023
Attemann	Rein			1/26/98	J234
Attemann	Rein			1/28/98	J236
Avitia	Adelaide			2/25/98	J313
Ayala	Arturo			2/18/98	J276
Baker	Don			12/22/97	J015
Barnett	Terry			12/10/97	M007
Barney	Judith			1/5/98	J052
Battin	Jim	State Assemblyman	State of California	4/13/98	B002
Baumann	Steve	General Manager	Glamis Imperial Corporation	12/18/97	I001
Baumann	Steve			12/11/97	N006
Baumann	Steve	General Manager	Glamis Imperial Corporation	2/6/98	I017
Baumann	Steve	General Manager	Glamis Imperial Corporation	2/12/98	I018
Baxter	David G.			1/21/98	J219
Beals	Cassie			3/4/98	J323
Bean	Steve			1/21/98	K002
Bean	Steve			1/21/98	K004
Beard	Alan			1/24/98	J231
Beck	Linda M.			No date	K005
Beers	Suzanne			3/26/98	K017
Benson	Richard			2/21/98	J290
Benson	Richard			2/24/98	J301

LAST NAME	FIRST NAME	TITLE	COMPANY/AGENCY	Date	No.
Berman	Jeffrey A.		National Wildlife Federation, Rocky Mountain Natural Resource Center	4/13/98	I035
Biggerstaff	James			2/12/98	J247
Birch	John			3/31/98	K024
Black	Jeffrey D.			3/30/98	J330
Bland	Emilia & Dean			No date	K006
Bolles	David R.			2/25/98	J316
Boulanger	Aimee		Mineral Policy Center	4/13/98	I013
Boxer	Barbara	U.S. Senator	State of California	1/27/98	A001
Boyle	Cherie L.			No date	J164
Boyle	Gary			12/11/97	N027
Bradfield	Susan			No date	J145
Bragg	Ernest A.			4/12/98	J134
Bragg	Lena E.			2/22/98	J293
Bragg	Margaret A.			2/24/98	J297
Brantfrass	Judy			2/19/98	J096
Brennan	Cynthia A.			2/18/98	J095
Brennan	Ronald J.			2/19/98	J093
Brooks	Linda L.			4/13/98	I010
Brooks	Linda			2/19/98	J264
Brown	Gregory			2/24/98	J299
Brown	Harold			12/11/97	N026
Burch	David			3/30/98	J332
Burke	Quentin and Ellen			4/7/98	J355
Burnett	James R.			No date	J154
Burrascano	Cindy			12/10/97	M019
Burrow	Jack Robert			3/26/98	K018
Burton	Claudia			3/8/98	J026
Burton	Claudia			3/8/98	J027
Cabrera	Rogelio			2/19/98	J277
Cachora	Lorey	Consultant and Tribal Member	Quechan Cultural Committee, Fort Yuma Indian Reservation	No date	H001
Cachora	Lorey			12/11/97	N022
Cachora	Lorey			12/10/97	M030
Cagle, Ph.D., PA	Fred		Tijuana River National Estuarine Research Reserve	4/13/98	I019
Calavita	Joe			12/26/97	J180
Calavita	Joe			12/26/97	J182
Camacho	Ramon C.			3/30/98	J329
Cardiel	Rafael			2/19/98	J280
Carey	John			2/9/98	J010
Carlson	Amelia			1/16/98	J093
Carlson	Amelia			1/16/98	J066
Carrillo	Monica			2/25/98	J302
Censor, M.S.	Alexander			2/9/98	J081
Chambers, Ph.D.	David M.		Center for Science in Public Participation	1/23/98	I002
Chase	Carolyn	Chair, Executive Committee	Sierra Club, San Diego Chapter	3/18/98	I023
Claytos	Crystal			12/27/97	J052
Cogswell, Ph.D.	John			3/25/98	K012
Collins, Ed.D.	John E.			1/22/98	J074
Collins	Karen M.			12/11/97	N016
Collinsworth	Van K.	Executive Director	Preserve Wild Santee	2/16/98	I042
Conley, Esq.	James H.	Vice President	North Santiam Watershed Council	2/25/98	I020
Conley, Esq.	James H.	Vice President	North Santiam Watershed Council	2/25/98	I021
Conley	Jim	Co Chair of the Conservation Committee	Salem Audubon Society	4/16/98	I028
Conroy	Tim			4/6/98	J348
Cools	Cecilia Marie			1/6/98	J193
Coules	Dennis			1/22/98	J221
Courts	Caroline			4/2/98	J340
Coverley	Ruth			2/27/98	L010
Coyle, Esq.	Courtney Ann	Attorney At Law		4/12/98	I012
Crandell	Brenda			12/24/97	J178

LAST NAME	FIRST NAME	TITLE	COMPANY/AGENCY	Date	No.
Crawford	David			1/5/98	J055
Creekmur	Amy			2/13/98	J254
Crickmore	Ingrid			2/22/98	J104
Da Rosa	Carlos	Senior Research Associate	Mineral Policy Center	2/20/98	J031
Daskal	Neal H.			4/2/98	J339
Dautremont-Smith	Julian			1/17/98	J208
Davies	Jeanne			12/10/97	M013
Davies	Jeanne			2/17/97	J040
Davies	Jeanne			2/19/98	J104
Davies	Jeanne			12/1/97	J013
de Falla	Susan			1/22/98	J223
Denison	John			3/26/98	K019
Denneen	Bill			2/1/98	L009
Despain	Joel D.			4/4/98	J345
Deutsche	Craig			12/10/97	M031
Diederichs	Barbara			2/12/98	J246
DiNoto	Laurie			12/25/97	J059
Dolley	John			12/25/97	J051
Dolley	John			2/25/98	J309
Domiguez	Gabby			2/25/98	J312
Dowling	Evelyn			2/25/98	J303
Dowling	Michelle			1/22/98	J072
du Vernet	Dean H.			4/9/98	J133
du Vernet	Dean H.			No date	J033
Du	Hanbin			1/1/98	J053
Dupont	Colette			4/11/98	J351
Dzink	John Joseph			2/6/98	J242
D'Spain	Ron			3/31/98	K025
Eaton	Martha B.			2/10/98	J012
Edinger	Bill			2/22/98	J005
Ellis	Bob	Communications Director	Desert Survivors	12/3/97	J012
Emmerich	Kevin			No date	J036
Englander	Claire			2/23/98	J023
English	David			12/10/97	M008
Ervin	Nick			4/13/98	D002
Escalanti, Sr.	Kenny	Vice President	Quechan Tribal Council, Fort Yuma Indian Reservation	4/13/98	D003
Escalanti, Sr.	Kenny	Vice President	Quechan Tribal Council, Fort Yuma Indian Reservation	1/27/98	J040
Esparza	Tiberio R.	President	Esparza's Welding and Machine Shop	2/26/98	J047
Estabillo	Ron	President	Imperial Chamber of Commerce	2/98	J012
Evans	Ron			12/10/97	M031
Evans	Ron			1/6/98	J029
Farmer	Justin	General Manager	California Indian Arts Association	2/25/98	J304
Fay	Sean			No date	J242
Fellers	Anne			12/11/97	N029
Filler	Bob			No date	J012
Fisher	Chuck			1/3/98	J002
Fisher, Ed.D., J.D.	Robert T.			4/10/98	J010
Flynn, Esq.	Robert T.		Western Mining Action Project	12/10/97	M031
Forbes	Elizabeth			1/12/98	J197
Forgey	Elizabeth			12/18/97	J176
Fowler	C.R.			2/20/98	J286
Foye	Ronald D.			2/17/98	J260
Frazier	R.D.			12/11/97	N004
Frazier	Robert			2/4/98	J077
Frenzel	L.D.			3/31/98	K027
Garber	Ken & Sandra			2/25/98	J318
Gastelum	Cindy			12/11/97	N025
Geisinger	Iva			12/2/97	J044
Geisinger	Iva L.			3/12/98	J123
Gendron	Bonnie				

LAST NAME	FIRST NAME	TITLE	COMPANY/AGENCY	Date	No.
Glasscock	John			2/22/98	J292
Gookin	Edwin & Donna			1/2/98	J189
Gordon	Bryan			1/21/98	I019
Gorman	C.C.			2/14/98	J257
Gravestock	Edie			3/26/98	J125
Greene	Mira			12/10/97	M040
Greenlee	Ron			No date	J158
Gregory	Sylvia			1/17/98	J207
Grover	William			12/10/97	M034
Guerreiro	Mike			12/10/97	M034
Gutierrez	Teresita			1/21/98	J220
Gyna?	Letica?			2/25/98	J306
Hadl	Mark			12/11/97	N024
Hahn	George			11/29/97	J167
Haldane	Tim		Chemgold	12/11/97	N008
Haldane	Tim			4/3/98	J008
Hamilton	Barbara J. & Tom		Hamilton Instrument Service	3/10/98	I043
Hadl	Richard			2/19/98	J065
Hanson	John D.			1/21/98	J220
Harmon	Edie			12/10/97	M001
Harmon	Edie	Chair	Sierra Club, San Diego Chapter	4/13/98	I013
Harmon	Edie	Chair	Sierra Club, San Diego Chapter	12/10/97	I016
Harmon	Edie			12/11/97	N019
Harmon	J. Courtney			No date	J143
Harmon	James E.			12/10/97	M003
Harmon	Tim			12/11/97	N019
Harmon	Paul C.			2/9/98	I019
Harmon	Paul C.			2/3/98	J020
Harriet	Allen			12/10/97	M025
Harris	Carol Billings			12/28/97	J185
Harris	Donald A.	Project Geologist - Mesquite Gold Mine	Newmont Gold Company	3/27/98	J126
Harris	Pat			12/10/97	M024
Hart	Calvette			12/10/97	M003
Hart	Calvette L.			2/26/98	J118
Hartman	Steven L.	Director	California Native Plant Society	2/16/98	I019
Harton	Ron			2/3/98	J075
Harwood	Ron			11/30/97	J168
Haugness-White	Julie			No date	J158
Haye	Stan	Chair	Sierra Club, California/Nevada RCC Mining Committee	3/8/98	I022
Haye	Stan	Chair	Sierra Club, California/Nevada RCC Mining Committee	4/11/98	I027
Hayes	Leone			No date	J034
Headington-Teal	Paula L.			2/25/98	J317
Heald	Phillip P.	President	El Centro Chamber of Commerce & Visitors Bureau	2/25/98	I043
Heberly	Rachel			1/16/98	J064
Heberly	Rachel			1/16/98	J065
Heinberger	Lisa			No date	K001B
Heinberger	Lisa			1/21/98	K003B
Hendrickson	Larry			2/22/98	J155
Heredia	Priscilla			2/25/98	J314
Higgins	Mike			12/25/97	J179
Higginson	Tim			2/17/98	J089
Hildebrand	John		University of California, San Diego	2/25/98	J025
Hinds	Alex			2/26/98	J120
Hirai	Rina			2/23/98	J107
Hoehn	Phillip			4/4/98	J346
Hopkins	Barbara	President	Tulare County Audubon Society	1/22/98	I030
Horn	Mike			12/27/97	J183
House	Ursula			No date	J144
Hughes	Elden		California Desert Protection League	4/7/98	I025

LAST NAME	FIRST NAME	TITLE	COMPANY/AGENCY	Date	No.
Hughes	Elden		Sierra Club California/Nevada Regional Conservation Desert Committee	2/24/98	I033
Humpherys	Gwenda			1/20/98	J214
Hunt	Jane			3/25/98	K013
Illegible?	Illegible?			2/25/98	J307
Ingram	Stephen			4/12/98	J135
Istel	Jacques-Andre		Town of Felicity	12/26/97	G001
Istel	Jacques-Andre	Mayor	Town of Felicity	3/26/98	G003
Jackson, Sr.	Mike	Tribal President	Quechan Tribal Council, Fort Yuma Indian Reservation	12/9/97	D001
Jacobs	Linda			11/7/97	J165
James	John K. and Martha R.			1/18/98	J070
Janissen	Diane			2/20/98	J184
Jaramillo	Stella			2/19/98	J259
Jennings	Carolyn			12/10/97	M005
Jennings	Carolyn B.			11/29/97	J184
Johnson	Ann Elise			1/30/98	J238
Johnson	Tamara J.			4/13/98	J353
Johnstone	Hoyt			3/30/98	K022
Jones	Andrew			2/16/98	J087
Jones	Bill	Secretary of State	State of California	4/13/98	B003
Jones	Stuart H.			2/19/98	J278
Joubert	Vijaya			1/1/98	J186
Karman	Felice			3/25/98	K012
Kekona	Stanley			1/12/98	J057
Kelemen	Clare			1/20/98	J230
Kelley	Dave	State Senator	State of California	4/15/98	B001
Kennedy	Jim			2/25/98	J309
Khalsa	Mha Atma Singh			3/1/98	K007
Khalsa	Santokh Singh & Suraj Kaur			3/30/98	K021
Kieraliff	Craig			12/10/97	M006
Kimura	Edward			1/27/98	J003
King	Bonnie Bess Worline			2/19/98	J066
Knechel	Fred M.	Executive Director	Calexico Chamber of Commerce	2/20/98	I044
Knoy	Carol	State President	PFUSA California	2/20/98	I006
Kolb	M.			2/19/98	J092
Kolb	Marcia			1/21/98	J278
Kory	Dafna			No date	J038
Kotzin	Joseph			1/1/98	J187
Kraves	Karl			1/18/98	J209
Kugler	Minnie			12/27/97	J184
Kuipers, P.E.	James		Center for Science in Public Participation	1/20/98	I002
Lacey	Butch			12/11/97	N005
Lacey	Butch			No date	J163
Langner	Mitch & Cathie			3/25/98	K010
Lang	Deborah			3/31/98	K026
Lang	Susan			1/20/98	J232
Langner	Brad			12/11/97	N017
LaPorta	Rose Marie			1/14/98	J201
Larabee	Dale R.		Larabee and Loadman	2/19/98	J263
Lasser	Karen			1/20/98	J216
Layboum	Dennis			2/24/98	I300
Lee, Ph.D.	Donald C.			12/18/97	J175
Lee, Ph.D.	Donald C.			12/18/97	J177
Leonard	Jim			4/8/98	J349
Levy	Tom	General Manager/ Chief Engineer	Coachella Valley Water District	2/19/98	G005
Lewis	Barnaby	Chairman, Cultural Resources Advisory Committee	Gila River Indian Community	2/6/98	H002
Lewis	Julia			3/27/98	J327
Lewis	Marla J.			2/25/98	J112
Libkind	Marcus			1/16/98	J205

LAST NAME	FIRST NAME	TITLE	COMPANY/AGENCY	Date	No.
Licht	Suzanne			3/25/98	K015
Lindsley, Jr.	Byron F.	Director	Mountain Defense League	2/25/98	I007
Lizarraga	Cindy			2/25/98	J310
Lohman	Bernadine			12/26/97	J181
Lopez	LeRoy			12/11/97	N030
Loucks	Dale A.			3/30/98	J333
Mains	Allen			2/12/98	J085
Malley	Karen			No date	J181
Manfredi	T.A.	Community Planner	United States Marine Corps Air Station Yuma	1/5/98	E003
Markley	Gloria			2/13/98	J253
Markley	John W.			2/14/98	J255
Marler	Dale M.			2/12/98	J255
Marsh	Ari			No date	J181
Marsh	Ari			No date	J162
Marshall	Jason	Assistant Director	California Department of Conservation, Office of Governmental and Environmental Relations	2/26/98	F001
Martin	Debbie			2/5/98	J241
Martin	Frances V.			1/19/98	J212
Mason	Betty			No date	J037
Mason	Corry			No date	J153
Massey	Susan			4/1/98	J347
Mathews	Michael			12/10/97	M039
Matyas	Betty			1/18/98	J196
Mayer	Olive			1/20/98	J217
Mazei	Louis G.			4/13/98	J137
McCarthy	Elisabeth M.			2/21/98	J285
McDonald	Kimla	Vice President	The Cultural Conservancy	4/8/98	I049
McGee	Russell			1/18/98	I049
McGirk	Sally Robb			4/4/98	J347
McMaster	Ken & Debbie			2/21/98	J285
McNeill	Steve			No date	J150
Melchionne	J.P. and Mary E.			2/18/98	J251
Menkes	Paul			3/30/98	J336
Meral	Gerald H.	Executive Director	Planning and Conservation League	1/30/98	I041
Mered	Nora			1/20/98	J233
Messin	Sam			2/16/98	J088
Meyer	Lynne			1/20/98	J227
Michetti	Jo Ann			1/12/98	J200
Miller	Danny R.			2/18/98	J262
Miller	Douglas Keith			2/18/98	J274
Miller	Keith			12/11/97	N003
Mockbee, MD, MPH	Joy			1/18/98	J210
Modi	Palin			2/18/98	J269
Montejano	Guadalupe			2/25/98	J305
Morales	Rudy L.			3/25/98	J326
Morel	Barbara			1/5/98	J196
Morrill	Don			1/20/98	J215
Moskowitz, MFCC/LCSW	Marilyn			2/10/98	J245
Murguia	Cindy			2/25/98	J311
Murphy	Louise			12/10/97	M002
Myers, Ph.D.	Tom	Hydrologic Consultant		2/20/98	I004
Nack	Bonnie			12/10/97	M021
Nack, Ed.D.	Bonnie			12/2/97	J043
Nack	Michelle			1/10/98	J056
Nack, Ed.D.	Bonnie			12/2/97	J041
Navarro	Brenda			2/25/98	J315
Neal-Brown	Martha M.			2/24/98	J299
Negleman	Blanche			3/14/98	J124
Negleman	Diwn			2/20/98	J101

LAST NAME	FIRST NAME	TITLE	COMPANY/AGENCY	Date	No.
Negleman	Tom			2/20/98	J287
Nevins	Melinda			No date	J159
Nevins	Melinda			No date	J160
Newgard	Constance & Bruce			12/18/97	J048
Nordstrom	Jack & Donna			2/2/98	J239
Noriega	Arnold Charles			12/97	J035
Nowell	Vernon P.			3/2/98	J321
O'Dell	Dorsa		Stone Apple Farm	2/26/98	J119
O'Leary	Cathy			2/9/98	J080
O'Neil	Jan & Orv			3/30/98	J127
O'Riley	Catherine	Board of Directors	Desert Survivors	1/15/98	J035
Oaklander	Violet			3/22/98	K008
Ogden	Polly			2/22/98	J108
Olsen	Frank			1/2/98	J168
Owl	Pauline	Chairperson	Quechan Cultural Committee, Fort Yuma Indian Reservation	12/9/97	D001
Owl	Pauline	Chairperson	Quechan Cultural Committee, Fort Yuma Indian Reservation	4/13/98	D002
Owl	Pauline	Chairperson	Quechan Cultural Committee, Fort Yuma Indian Reservation	4/13/98	D003
Owl	Pauline	Chairperson	Quechan Cultural Committee, Fort Yuma Indian Reservation	4/13/98	H003
Owl	Pauline	Chairperson	Quechan Cultural Committee, Fort Yuma Indian Reservation	No date	H004
Padilla	Chris & Billie			4/3/98	J344
Paquin	Dave			12/10/97	M042
Parris	Pat			12/10/97	M020
Patterson	Daniel			12/10/97	M032
Patton	Jeanne			12/10/97	M035
Pauly	Craig & Karen			2/24/98	J298
Peck	John S.			3/30/98	J331
Pena	Alejo Arrizon			2/18/98	J270
Pendergrass	Merlene			2/18/98	J279
Pester	James H.	Executive Secretary	Imperial County Building and Construction Trades Council	4/13/98	I036
Pester	James H.	Executive Secretary	Imperial County Building and Construction Trades Council	4/13/98	I037
Peterson	Virginia M.			1/16/98	J203
Piccadilly	Gloria			No date	L001
Piccadilly	Gloria			No date	L002
Piccadilly	Gloria			2/12/98	L004
Piccadilly	Gloria			3/2/98	L005
Piccadilly	Gloria			1/16/98	J059
Piccadilly	Gloria			1/16/98	J062
Piccadilly	Gloria			2/4/98	J076
Piccadilly	Gloria			2/12/98	J099
Piccadilly	Gloria			3/31/98	K028
Plyer	Allison			No date	J140
Purdom	Mark B.			12/11/97	N002
Purdon	Mark			2/23/98	J108
Purdue	Sandra			2/11/98	I003
Purvance	Dan		Glamis Imperial Corporation	No date	J035
Pusser	Jessica			1/17/98	J067
Pusser	Jessica			12/10/97	J173
Puzo	Joseph			12/11/97	N009
Quijada	Bryan			2/18/98	J261
Quiroz	Ruben G.			2/18/98	J091
Ramirez	Marisa			2/18/98	J267
Ramirez	Santos E.			2/18/98	J271
Ramirez	Santos E.			1/14/98	J202
Rand	Deirdre and Randy			4/12/98	J352
Rawlings	Tracey & Mark			2/20/98	I051
Redder	Mark		Road Machinery Co.	2/25/98	J319
Regalado	Jacqueline			2/18/98	J094
Regalado	Steven			No date	J001
Renfro	Lee Ann			12/11/97	N018
Renfro	Lee Ann				

LAST NAME	FIRST NAME	TITLE	COMPANY/AGENCY	Date	No.
Reyes	Walfredo & Carolina			3/31/98	K023
Rich	Fred & Caryn			3/15/98	J325
Ricker	James P.			2/23/98	J294
Ricker	Jim			12/10/97	M016
Riedy	Norbert		The Wilderness Society	4/13/98	I013
Riedy	Norbert	Director of Conservation Programs	The Wilderness Society	4/12/98	I026
Riggan, Jr.	Royce B.	Principal	RB Riggan and Associates	2/26/98	I006
Rinaldi	D.P.			12/5/97	J169
Rivinus	Marianna			No date	J152
Roberts	Tori			3/31/98	J334
Robertson	Richard			3/15/98	J324
Rodriquez	Francisco			2/18/98	J272
Rogoff	Jim			3/31/98	K024
Roner	Anna			4/9/98	J133
Rosenquist, Ph.D.	Karl		Imperial Valley College	4/6/98	L006
Rosenquist	Karl			4/2/98	J341
Rosenquist	Karl			4/2/98	J342
Roth	Kathleen and David			1/12/98	K001A
Roth	Kathleen and David			1/12/98	K003A
Rotter	Thomas M.			12/12/97	J174
Rotter	Thomas M.			1/24/98	J226
Ruderman	Jim			1/16/98	J060
Ryan	Lynn			1/16/98	J204
Saldana	Lori			2/2/98	J294
Sanregret	Robert			2/23/98	J295
Saylor	Myra			2/27/98	J121
Schaeffer, Ph.D.	Robin L.			1/24/98	J225
Scheinost	Nikki P.			4/8/98	J132
Scheuerell	Edward			3/31/98	J335
Schneider, Jr.	Herman T.		Off-Highway Recreation Consultant	3/30/98	J128
Schwanst	Jack			2/27/98	J320
Sehori	Alice			2/26/98	J116
Sehori	Alice			2/26/98	J117
Sehori	Eric			12/10/97	M004
Sehori	Eric			3/3/98	J007
Sehori	Melanie		College of the Atlantic	2/25/97	L003
Sehori	Melanie			1/12/98	J060
Schorider	Eric			12/11/97	N020
Schwager	Irving			3/6/98	J128
Seek	Patricia			4/13/98	J136
Sellers	Johnny			2/18/98	J268
Seneca	Lisa		RB Riggan and Associates	2/26/98	I009
Sensiper	Elaine M.			No date	J146
Sharpe	Susan			12/10/97	M012
Sharpe, M.A.	Susan			12/6/97	J046
Shockley	Mike & Meg			2/26/98	J281
Silvers	Rodger			2/8/98	J243
Simonek	Laura J.	Principal Environmental Specialist	Metropolitan Water District of Southern California, Office of the General Manager	2/26/98	G002
Sims	Tony L.			2/24/98	J116
Slayton	Paul			12/10/97	M012
Slayton	Paul			2/8/98	J018
Smith	Cheryl			3/8/98	K029
Smith	Craig			12/11/97	N013
Smith	Devore			12/10/97	M015
Smith	Diane			1/12/98	J198
Smith	Diane			1/12/98	J199
Smith	Geoffrey			12/10/97	M041
Smith	Randy		Road Machinery Co.	2/20/98	I050
Smith	Valerie	President	Brawley Chamber of Commerce	2/26/98	I046

LAST NAME	FIRST NAME	TITLE	COMPANY/AGENCY	Date	No.
Snow	Berk			3/26/98	K020
Spitler	Paul		California Wilderness Coalition	4/13/98	I013
Springer	Reza			12/10/97	M036
Stanley	Cecil			12/11/97	N011
Stanley	Douglas			2/6/98	J079
Stein	J. David	Manager, Performance Assessment and Implementation	Southern California Association of Governments	1/16/98	G004
Stenstrom	Mabel F.			4/1/98	J338
Stewart	Bill			2/18/98	J032
Stewart	Kay			2/13/98	J252
Stine, M.A., MPCC	Anne		Wilderness Rites	1/23/98	I039
Stonehart	Duane			2/19/98	J279
Stout, Ph.D.	C.D.		Alpine Land Preservation Action Committee	2/23/98	I032
Stout	Dave C.			12/10/97	M028
Stout	Roz			12/11/97	N011
Stout	Rozella W. & Donald L.			12/18/97	J048
Stout	Thomas C.			2/18/98	J265
Strachan	Don			3/24/98	K009
Strauss	Emilie A.			3/30/98	J129
Suk	Thomas J.			1/22/98	J222
Sullivan	Norma			12/10/97	M018
Swanson	John R.			1/17/98	J211
Sward	Jean			3/25/98	K016
Switzer	Crystal			1/16/98	J061
Switzer	Crystal			1/17/98	J068
Taucher	Curt	Regional Manager	California Department of Fish and Game, Region 5	3/31/98	I002
Thompson	Elizabeth A.			2/19/98	J097
Thompson	John P.			2/19/98	J098
Torres	Douglas	Chairman, Natural Resources Standing Committee	Gila River Indian Community	2/6/98	I002
Trigg	Ernest			2/24/98	J024
Trout	Daniel D.			12/10/97	M011
Trout	Daniel D.	President	Palomar Chapter, American Indian Science and Engineering Society	1/16/98	I034
Troy	Sylvia			12/6/97	J171
Tseng	Alice			1/20/98	J016
Tunick	Janet			3/25/98	K011
Twist	Dulce J.			3/4/98	J322
Ulloth	Jeju			1/22/98	J079
Unknown*				12/25/97	J049
Vandevelde	Mike			2/12/98	J248
Vandevelde	Mike			2/12/98	J250
Vellas	Anastasia			12/11/97	N001
Vellas	Anastasia			No date	J030
Vellas	Anastasia			12/9/97	J172
Vellas	Anastasia			2/18/98	J090
Vogel	Virginia			12/11/97	N012
von Werlhof	Janet			4/11/98	J024
von Werlhof	Jay			2/20/98	J283
Von Blum	Paul			12/5/97	J120
Wagemond	Helen			12/10/97	M010
Waggoner	Jonathan			12/11/97	N028
Waggoner	Jonathan		Natural Resources Defense Council	2/25/98	I045
Wald	Johanna H.			12/11/97	N007
Walker	Lidia			1/5/98	J191
Wang	T.K.			2/22/98	J291
Ward	Elizabeth N.			No date	J032
Watson	Lance R.			4/14/98	J138
Watts	Kristi			4/14/98	J139
Watts	Kristi			1/28/98	J235
Weiner	Teresa				

LAST NAME	FIRST NAME	TITLE	COMPANY/AGENCY	Date	No.
Weiner	Terry			12/10/97	M014
Weingarten	Dean			No date	J155
Welch	Jeffrey D.			12/11/97	N014
Welch	Jeffrey D.			2/20/98	J102
Westcott	Debbie			12/10/97	M027
Westcott	Debbie			No date	J149
Westcott	Deborah			No date	J149
Westcott	Deborah			No date	J149
Westcott	Deborah			No date	J151
Wheat	Carl			12/10/97	M023
Wheat	Francis M.			2/10/98	J021
Wheat	Frank			12/10/97	M027
Whipple	Ruth B.			4/24/98	J354
Whitaker	Howard J.			4/5/98	J131
Whitaker	Howard J.			1/17/98	J206
White	Alan L.			4/10/98	J071
Whiting	Nicole			2/25/98	J114
Wickman	Judy			1/17/98	J213
Wieman	Deanna M.	Deputy Director	United States Environmental Protection Agency, Region IX, Cross-Media Division	3/19/98	E001
Wiley	Carol A.			2/2/98	J240
Wilke	Dorothy and Ronald			2/12/98	J004
Wilson	Ervin M.			4/9/98	J350
Wilson	Jim		Laser, Inc.	2/25/98	I008
Wilson	Jim		Laser, Inc.	4/10/98	I011
Wisdom	Joyce			1/24/98	J228
Wolfe	Christina A.			2/6/98	J078
Woods	Eugene			2/18/98	J275
Yamagata	Pete			1/10/98	J194
Yarbrough	Jim			1/8/98	J192
Yates	James			2/12/98	J249
Zavodsky	Tad L.			2/17/98	J258
Zazueta	Vincent			12/11/97	N021
Zwinger	Susan			2/11/98	J083
Zwinger	Susan			2/11/98	J084

6 COMMENT LETTER AGENCY AND ORGANIZATION INDEX

6 COMMENT LETTER AGENCY AND ORGANIZATION INDEX

The following is an alphabetical list of the agencies and other organizations that provided comments on the Draft EIS/EIR with a cross reference index to the respective comment letter(s) submitted by these entities. In those cases where the agency or organization representatives submitted more than one comment letter, the entities are listed for each comment letter submitted.

COMPANY/AGENCY	LAST NAME	FIRST NAME	TITLE	Date	No.
Alpine Land Preservation Action Committee	Stout, Ph.D.	C.D.		2/23/98	I037
Brawley Chamber of Commerce	Smith	Valerie	President	2/26/98	I046
Calexico Chamber of Commerce	Knechel	Fred M.	Executive Director	2/25/98	I044
California State University, Sacramento	Annskey, Ph.D.	Stephanie	Department of English	1/12/98	I058
California Indian Arts Association	Farmer	Justin	General Manager	1/6/98	I029
California Native Plant Society	Hartman	Steven L.	Director	2/16/98	I019
California Desert Protection League	Hughes	Elden		4/7/98	I025
California Department of Conservation, Office of Governmental and Environmental Relations	Marshall	Jason	Assistant Director	2/26/98	F001
California Wilderness Coalition	Spitler	Paul		4/13/98	I013
California Department of Fish and Game, Region 5	Tauscher	Curt	Regional Manager	3/31/98	F002
Center for Science in Public Participation	Chambers, Ph.D.	David M.		1/23/98	I002
Center for Science in Public Participation	Kuipers, P.E.	James		1/23/98	I002
Chemgold	Haldane	Tim		12/11/97	N008
Coachella Valley Water District	Levy	Tim	General Manager; Chief Engineer	2/19/98	G005
College of the Atlantic	Schori	Melanie		2/25/97	L003
Desert Survivors	Ellis	Bob	Communications Director	2/22/98	I005
Desert Survivors	O'Riley	Catherine	Board of Directors	1/15/98	I038
El Centro Chamber of Commerce & Visitors Bureau	Heald	Phillip P.	President	2/21/98	I043
Esparza's Welding and Machine Shop	Esparza	Tiberio R.	President	1/27/98	I045
Gila River Indian Community	Lewis	Barnaby	Chairman, Cultural Resources Advisory Committee	2/6/98	H002
Gila River Indian Community	Torres	Douglas	Chairman, Natural Resources Standing Committee	2/6/98	H002
Glamis Imperial Corporation	Baumann	Steve	General Manager	12/15/97	I001
Glamis Imperial Corporation	Baumann	Steve	General Manager	2/12/98	I018
Glamis Imperial Corporation	Baumann	Steve	General Manager	2/6/98	I037
Glamis Imperial Corporation	Parvance	Dan		2/11/98	I003
Hamilton Instrument Service	Hamilton	Barbara J. & Tom		3/10/98	I048
Imperial Chamber of Commerce	Estabillo	Ron	President	2/26/98	I047
Imperial County Building and Construction Trades Council	Pester	James H.	Executive Secretary	4/13/98	I037
Imperial County Building and Construction Trades Council	Pester	James H.	Executive Secretary	4/13/98	I036
Imperial Valley College	Rosenquist, Ph.D.	Karl		2/6/98	L006
Larabee and Loadman	Larabee	Dale R.		2/12/98	I263
Laser, Inc.	Wilson	Jim		2/26/98	I003
Laser, Inc.	Wilson	Jim		4/10/98	I037
Metropolitan Water District of Southern California, Office of the General Manager	Simonek	Laura J.	Principal Environmental Specialist	2/26/98	G002
Mineral Policy Center	Boulanger	Aimee		4/13/98	I013
Mineral Policy Center	Da Rosa	Carlos	Senior Research Associate	2/20/98	I031
Mountain Defense League	Lindsley, Jr.	Byron F.	Director	2/25/98	I007
National Wildlife Federation, Rocky Mountain Natural Resource Center	Berman	Jeffrey A.		4/13/98	I035
Natural Resources Defense Council	Wald	Johanna H.		2/25/98	I045
Newmont Gold Company	Harris	Donald A.	Project Geologist - Mesquite Gold Mine	3/27/98	J126
North Santiam Watershed Council	Conley, Esq.	James H.	Vice President	2/25/98	I020
North Santiam Watershed Council	Conley, Esq.	James H.	Vice President	2/25/98	I021
Off-Highway Recreation Consultant	Schneider, Jr.	Herman T.		3/30/98	J128
Palomar Chapter, American Indian Science and Engineering Society	Trout	Daniel D.	President	4/10/98	I034
PFUSA California	Knoy	Carol	State President	2/24/98	I006
Planning and Conservation League	Meral	Gerald H.	Executive Director	1/30/98	I041
Preserve Wild Santee	Collinsworth	Van K.	Executive Director	2/16/98	I042

COMPANY/AGENCY	LAST NAME	FIRST NAME	TITLE	Date	No.
Quechan Cultural Committee, Fort Yuma Indian Reservation	Cachora	Lorey	Consultant and Tribal Member	No date	H001
Quechan Tribal Council, Fort Yuma Indian Reservation	Escalanti, Sr.	Kenny	Vice President	4/13/98	D003
Quechan Tribal Council, Fort Yuma Indian Reservation	Escalanti, Sr.	Kenny	Vice President	4/13/98	D002
Quechan Tribal Council, Fort Yuma Indian Reservation	Jackson, Sr.	Mike	Tribal President	12/9/97	D001
Quechan Cultural Committee, Fort Yuma Indian Reservation	Owl	Pauline	Chairperson	12/9/97	D001
Quechan Cultural Committee, Fort Yuma Indian Reservation	Owl	Pauline	Chairperson	4/13/98	D002
Quechan Cultural Committee, Fort Yuma Indian Reservation	Owl	Pauline	Chairperson	No date	H004
Quechan Cultural Committee, Fort Yuma Indian Reservation	Owl	Pauline	Chairperson	4/13/98	H003
Quechan Cultural Committee, Fort Yuma Indian Reservation	Owl	Pauline	Chairperson	4/13/98	D003
RB Riggan and Associates	Riggan, Jr.	Royce B.	Principal	2/26/98	J006
RB Riggan and Associates	Seneca	Lisa		2/20/98	I009
Road Machinery Co.	Redder	Mark		2/20/98	I051
Road Machinery Co.	Smith	Randy		2/20/98	I050
Salem Audubon Society	Conley	Jim	Co Chair of the Conservation Committee	4/11/98	I028
Sierra Club, San Diego Chapter	Chase	Carolyn	Chair, Executive Committee	3/18/98	I023
Sierra Club, San Diego Chapter	Harmon	Edie	Chair	4/13/98	I013
Sierra Club, San Diego Chapter	Harmon	Edie	Chair	12/14/97	I016
Sierra Club, California/Nevada RCC Mining Committee	Haye	Stan	Chair	3/8/98	I022
Sierra Club, California/Nevada RCC Mining Committee	Haye	Stan	Chair	4/11/98	I022
Sierra Club California/Nevada Regional Conservation Desert Committee	Hughes	Elden		2/20/98	I033
Southern California Association of Governments	Stein	J. David	Manager, Performance Assessment and Implementation	1/16/98	G004
State of California	Battin	Jim	State Assemblyman	4/13/98	B002
State of California	Boxer	Barbara	U.S. Senator	1/27/98	A001
State of California	Jones	Bill	Secretary of State	4/13/98	B003
State of California	Kelley	Dave	State Senator	4/10/98	B001
Stone Apple Farm	O'Dell	Dorsa		2/20/98	J119
The Desert Protective Council	Adams	Lissa L.	Board Member	4/13/98	I015
The Desert Protective Council, Inc.	Allen	Douglas W.	Vice President	4/5/98	I024
The Cultural Conservancy	McDonald	Kimla	Vice President	4/8/98	I049
The Wilderness Society	Raidy	Norbert		4/13/98	I013
The Wilderness Society	Raidy	Norbert	Director of Conservation Programs	4/15/98	I024
Tijuana River National Estuarine Research Reserve	Cagle, Ph.D., PA	Fred		4/13/98	I014
Town of Felicity	Istel	Jacques-Andre		12/26/97	G001
Town of Felicity	Istel	Jacques-Andre	Mayor	3/26/98	G003
Tulare County Audubon Society	Hopkins	Barbara	President	1/22/98	I030
United States Fish and Wildlife Service, Carlsbad Field Office			Assistant Field Supervisor	4/13/98	E002
United States Marine Corps Air Station Yuma	Manfredi	T.A.	Community Planner	1/5/98	E003
United States Environmental Protection Agency, Region IX, Cross-Media Division	Wieman	Deanna M.	Deputy Director	3/19/98	E001
University of California, San Diego	Hildebrand	John		2/25/98	J025
Western Mining Action Project	Flynn, Esq.	Roger		4/10/98	I010
Wilderness Rites	Stine, M.A., MFCC	Anne		1/23/98	I039

7 RESPONSE KEY WORD INDEX

7 RESPONSE KEY WORD INDEX

The following is a page index to selected key words and phrases provided in the responses to the respective interested party comments in this *Comments and Responses to Comments* volume (Volume III) of the Imperial Project Final EIS/EIR.

Acid Mine Drainage (I004-11)
Advisory Council on Historic Preservation (I009-22, I012-74, I012-78, I013-180, J007-15)
Algodones Sand Dunes (E001-20, E001-26, E001-37, I013-175, I013-183, I014-4, I015-25)
  Imperial Sand Dunes Recreation Area (J008-6)
All American Canal (G002-7, I004-12, I004-15, I004-16, I008-10, I013-185, I013-187, I013-219, I013-220)
Ambient Air Quality (General Comments-9, G001-4, I009-26, I010-41-43, I010-45, I010-46, I011-6, J003-8, J005-6, J014-4)
American Girl Mine (E001-39, E001-40, E001-43, E002-8, E002-21, E002-28, E002-32, F002-11, G001-3, G001-4, I002-34, I005-9, I006-7, I009-25-27, I009-30, I009-41, I013-159-161, I013-168, I013-199, I014-3, I015-32, J003-Oro Cruz Project (E001-39, E001-40, E001-43, E002-8, E002-21, E002-28, E002-32, F002-11, G001-3, G001-4, I002-34, I005-9, I006-7, I009-25-27, I009-30, I009-41, I013-159-161, I013-168, I013-199, I014-3, I015-32, J003-10)
American Indian Religious Freedom Act (E001-40, E001-43, E002-28, I009-30, I009-41, I013-161, I013-199)
Amos-Ogilby Basin (E001-53, E001-54, I012-65)
Amos-Ogilby-East Mesa Ground Water Basin (I004-12, I013-220)
Archaeological Data Recovery Program (G002-7, I004-12-16, I008-13, I013-184-187, I013-189, I013-190, I013-219, I013-220)
Area of Critical Environmental Concern (I012-79, I013-141)
  Indian Pass ACEC (E001-16, I013-134, I013-193, I013-206)
Area of Potential Effects (I013-134)
Area of Traditional Cultural Concern (D002-6, I013-203, I015-27)
Aviation Safety (General Comments-6, D002-6, H001-9, H001-10, I012-68-74, I012-78, I012-79, I013-134, I013-135, I013-202, I013-204, I013-206, I013-222, I013-223, I015-28)
Backfill (E003-3, I009-44)
Barren Pond (F001-6, F001-11, I002-30, I002-32, I002-36, I004-11, I005-7, I009-20, I013-145, I013-146, I013-152, I013-154, I013-155, I013-164, I013-177, I013-178, I015-25, I024-6, I024-7, I025-6, J005-5)
Bighorn (E001-19, E001-30, E001-47, E001-51, E002-16, F002-12, J003-6, J003-7, J003-11)
Biological Opinion (F002-5, F002-7, I013-198, J007-15, J014-3, J014-4)
Biological Survey (E002-10, F001-12, I006-7, I010-39, I010-40, J017-3)
  Bat Survey (General Comments-5, I005-8, I005-9, J002-3, J007-15, J014-3, J014-4)
  Biological Assessment (I013-195)
  Biological Survey Report (J017-3)
  Vegetation Baseline Survey (I005-8, I005-9, J002-3)
  Wash Vegetation and Habitat Survey (General Comments-5, I005-8, I005-9, I013-193)
Black Mountain (General Comments-5, I005-8, I005-10, I005-11, I013-167)
Blasting (I025-6)
Bond Release Criteria (E001-41, E003-3, F002-13, I004-9, I009-29, I009-31, I009-33, I009-35, I009-40, I009-41, I009-44, I013-155, I013-198, I013-199, I015-32, J007-15, J014-4)
California Air Resources Board (E002-21, E002-22)
California Ambient Air Quality Standards (I011-8)
California Code of Regulations (General Comments-9, I010-41, I010-42, I010-44, I011-10, I015-33)
California Department of Fish and Game (E001-15, E001-17, E001-18, E001-40, E001-49, F001-6, F001-8, F002-9, F002-11, I002-30, I013-137, I013-158, I015-27, I015-31, I015-32, J007-15)
California Desert Conservation Area (E002-7, E002-10, E002-18, E002-19, E002-33, E002-38, E002-40, F001-11, F001-12, F002-1, F002-5-9, F002-12, F002-13, I003-2, I013-157, I013-171, I013-176, I013-177, I013-194, I013-198, I019-6, Numerical Index-1, Author Index-9, Agency and Organization Index-1)
California Desert Protection Act (A001-3, E001-16, E002-26-29, I002-36, I009-22, I010-35-38, I012-72, I013-147, I013-161, I013-197, I013-209, I013-211, I013-217, I014-4,

I015-28, I015-29, I015-33, I019-5, I019-6, I027-3, J008-6)
California Endangered Species Act (I013-215)
California Environmental Quality Act (F001-12)
Statement of Overriding Considerations (Introduction-1, General Comments-5, General Comments-9, General Comments-10, D002-7, E001-15, E001-17, E002-29, F002-9-11, I002-30, I002-32, I004-14, I009-23-25, I009-28, I009-34, I009-46, I010-39, I010-40, I012-74-76, I013-134, I013-137, I013-141, I013-144, I013-169, I013-172, I013-173, I013-181, I013-191, I013-195, I013-201, I013-223, I015-27, I015-28, I015-30-32, I019-6, I019-7, J006-5, J007-15, J029-3)
California Environmental Quality Act Guidelines (I015-31, I015-32)
Appendix G (General Comments-5, E002-29, F002-9-11, I009-23-25, I009-28, I012-75, I013-134, I013-137, I013-172, I013-173, I013-181, I015-27, I015-28, I015-30, I019-6, I024-5, J007-15)
Appendix K (General Comments-5, E002-36-38, I005-8, I009-25, I011-9, I011-10, I013-167, I013-172, I013-196)
California Native Plant Society (General Comments-5, I010-44, I015-27)
California Regional Water Quality Control Board (E002-9, E002-34, I018-1, I019-5, Numerical Index-2, Author Index-4, Agency and Organization Index-1)
Cargo Muchacho Mountains (E001-39, E001-40, E001-44, E001-45, E001-49-52, I002-31, I002-33, I002-34, I004-11, I013-165, I013-191, I015-24, I015-26, J003-11)
Castle Mountain Mine (I013-185, I013-198, J007-15, J014-3, J014-4)
Catchment Areas (E001-43, E002-28, E002-39, I013-161, I013-168, I013-170)
Catchment Basin (E001-26, E001-48, I013-184)
Chocolate Mountains (E001-26, E001-48, E001-52)
Chuckwalla (E001-16, E001-37, I005-12, I015-33)
Chuckwalla Critical Habitat Unit (F002-9, F002-10, F002-12, I006-6, I006-7, I010-40, I015-30, I015-31, J017-3)
Chuckwalla Desert Wildlife Management Area (I015-31)
Clay Liner (I015-30)
Clean Air Act Amendments (E001-46)
Clean Water Act (J003-7)
"Waters of the United States" (E001-16, E001-25, E001-33, E001-34)
Section 404 (E001-16, E001-25, E001-33, E001-34, I008-11)
Coachella Canal (E001-16, E001-34)
Code of Federal Regulations (G002-7, I013-185, I013-187, I013-220)
Colorado River Water (F001-6, F002-10, I002-31-34, I010-37-39, I010-46, I012-78, I012-79, I013-134-137, I013-140-142, I013-158, I013-169, I013-179, I013-192, I013-215, I015-24, J003-8, J007-15)
Complete Pit Backfill Alternative (G002-7, G002-8, I013-220)
Conditional Use Permit (I013-141, I013-144, I013-Cost-Benefit Analysis (I002-30, I002-36, I005-7, I009-20, I013-146, I013-178, I015-25, I024-6, I024-7, I025-6, J005-5)
Crushing of Ore (I013-141, I013-144, I013-191)
Cultural Resources (I002-36, I013-183)
Cumulative Effects (General Comments-8-10, E001-37, I006-6, I012-74, I012-75, I015-30, I019-Reasonably Foreseeable Projects (I013-147)
Cyanide (General Comments-5, General Comments-9, A001-3, D002-6, D002-7, E001-15, E001-16, I009-22, I010-36, I012-65, I012-66, I012-68-71, I012-74, I012-75, I012-78-80, I013-140, I013-141, I013-201-204, I013-206, I013-216, I013-223, I015-27, I015-28, J008-7, J023-4, J029-3, Numerical Index-1, Author Index-5, Agency and Organization Index-1)
HCN (General Comments-8-10, E001-37, I006-6, I012-74, I012-75, I015-30, I019-7)
Hydrogen Cyanide (General Comments-9)
Deer (E001-41, E001-43, E001-44, E001-51, F002-5, F002-12, F002-13, I002-32, I013-157, I013-158, I013-165, I015-24-26, J003-6-9, J003-11)
Deer Browse (I011-7, J003-7)
Deer Fawning Habitat (E001-43, J003-6)
Installation of Guzzlers (General Comments-5, E002-24, E002-38, F001-11, F001-12, F002-5-9, F002-11, F002-13, F002-14, I008-11, I013-156, I013-157, I013-164, I013-176, I013-177, I013-194, I013-198, I013-217)
Desert Pavement (E002-24, E002-38, F001-11, F001-12, I008-11, I013-164, I013-177)
Desert Tortoise (F002-8, F002-9, I013-194)
Eastern Colorado Recovery Unit (F002-15, I013-176)
Off-site Compensation (E002-22, F001-9, F001-10, I013-194, J355-2)

Tortoise Exclusion Fence (General Comments-5, E001-16, E002-10-19, E002-29, F002-5-7, F002-9, F002-11, F002-14, I003-2, I006-7, I009-28, I010-39, I010-40, I013-156, I013-172, I013-173, I013-200, I015-30, I015-31, I019-7, J017-3)
Tortoise Relocation and Tracking Monitoring Program (I015-30)
"Incidental Take" (F002-9, I013-197)
Diversion channels (I003-2)
Drawdown (E002-11)
Dust Suppression (I010-39)
East Mesa (E001-17, E001-20, E001-25, E001-26, E001-30, E001-31, E001-35, E001-47-49, E001-52, E002-7, E002-8, E002-22, E002-24, E002-27, E002-28, E002-31, E002-33, E002-36, E002-39, F001-8-11, I002-33, I008-11, I009-26, I012-69, I013-173, I013-183, I013-184, I013-196, I013-197, J003-9)
Economically Viable Projects (G001-3, I004-15, I004-16, I008-13, I013-188-190, I013-220)
Educational Program (I009-36, I009-37)
Electromagnetic Fields (E001-37, G002-7, I004-12, I004-14-16, I013-184-187, I013-189, I013-190, I013-219, I013-220)
Employment (I002-30)
Endangered Species (F002-14)
Endangered Species Act (I009-21, I009-22)
Environmental Impact Reduction Measures (General Comments-7, I012-72, J023-4)
Environmental Justice (General Comments-9, E002-10, E002-29, E002-40, F002-10, F002-11, F002-14, I010-39, I013-173, I019-6)
Erosion (E002-10, F001-12, F002-10, F002-11, I009-38, I010-39)
Evaporation Rate (I013-177)
Exotic Species (General Comments-8, I012-68)
Exploration Well (General Comments-3, E001-18, E001-19, E001-25, E001-32, E002-7, E002-28, I010-45, I013-158, I013-196, J003-7, J003-10)
Exploratory Operations (I009-26, I013-148, I013-149, I013-152, I013-153)
Fairy Duster (I013-163)
Federal Emergency Management Agency (G001-3, J011-3)
Federal Land Policy and Management Act of 1976 (I013-138)
Federal Register (E002-9, E002-34, E002-35, I009-28, J009-6)
Feral Dogs (I013-155)
Field Contact Representative (I010-35, I010-36, I010-38, I013-140, I013-142, I013-215)
Financial Assurance (F002-11, I013-134-136)
Flat-Tailed Horned Lizard (F002-15)
Fort Yuma Indian Reservation (F002-6, I013-157, I013-158)
Fugitive Dust (I002-31, I002-35)
General Mining Law of 1872 (F002-6, F002-7, F002-10-12, F002-14)
1872 Mining Act (G004-1, H001-9, I006-8, I010-46, I012-68, J008-7, J023-4, Numerical Index-1-3, Author Index-5, Author Index-7, Agency and Organization Index-2)
Mining Law of 1872 (I009-38, I010-42, I010-43, J003-8, J003-9, J014-4)
Geoglyph (E001-15, I009-20, I015-27)
Gold Rock Ranch (I009-20, I013-181)
Grazing (E001-15, I009-20, I010-35, I010-36, I015-27)
Ground Water (I012-71, I012-72)
Ground water aquifer (E001-51, I008-12, I008-13, I009-40, I009-41, I009-43, I010-41, I010-42, I012-68, I013-149, I013-187, I013-223, J008-6)
Ground Water Basin (I013-165)
Ground Water Elevations (General Comments-4, General Comments-9, General Comments-10, E001-42-44, E001-53, E001-54, F001-6, F002-15, G001-3, G002-7, G002-8, I002-34, I002-35, I004-9-17, I008-10, I008-12, I008-13, I009-28, I009-36, I009-37, I013-141, I013-145, I013-148-154, I013-175, I013-176, I013-183-191, I013-196, I013-219-221, I013-223, I015-25, I015-26, I024-6, J003-10, J003-12, J011-3, J018-5)
Ground Water Production (General Comments-4, G002-7, G002-8, I004-13, I004-14, I004-16, I009-28, I013-148, I013-175, I013-188, I013-189)
Ground Water Quality (I004-13, I004-14, I004-16, I013-184, I013-185, I013-189, I013-190, I013-219)
Ground Water Recharge (I013-188)
Ground water well field (G001-3, G002-7, G002-8, I004-14-16, I013-175, I013-223, I024-6)
Well Field (E001-44, G001-3, I002-34, I004-11, I013-152, I013-154, I013-186, I015-25, J018-5)
Growth-Inducing Impacts (I004-13, I004-16, I013-185, I024-6)
Guzzler (I013-175, I013-176, I013-183)
Hazardous Air Pollutants (G001-3, G002-7, I004-15, I004-16, I013-175, I013-176, I013-183, I013-189, I013-190, I024-6, J003-10)
HAPs (I013-223)

Hazardous Waste (E002-19, F002-5, F002-6, I002-35, I013-157)
Health Effects (I011-7, J003-7, J003-8)
Heap Leach Pad (I010-46, I011-7-9, J003-7, J003-8)
Hyduke Road (I009-45, I009-46, I011-7, I013-192)
Imperial County Air Pollution Control District (I009-21, I009-22, I010-45)
Imperial County Planning/Building Department (E001-19, E001-30, E001-32, E001-39-45, E001-47, E001-49-52, F002-12, I002-33, I010-47, I013-157, I015-25, I015-26)
Imperial County Public Works Department (I013-176, I013-193, I015-29)
Imperial Irrigation District (General Comments-9, I009-27, I010-41, I010-44, I011-7, I015-32, J003-7, J005-5, J005-6)
Electrical Transmission Line (Introduction-1-3, General Comments-9, F001-8, I010-44, I013-136, I013-152, I013-169, I013-184, I013-195, I013-199, I013-215)
Imperial Sand Dunes Recreation Area (E001-48, F001-9, I024-6)
Indian Pass Area of Critical Environmental Concern (E002-20, E002-21, G001-4, G001-5, I005-9, I009-36, I009-37)
Indian Pass Road (I009-37)
Indian Pass Wilderness Area (J008-6)
Indian Pass-Running Man Area of Traditional Cultural Concern (I013-134)
Indian Wash Habitat Management Plan (E002-12, E002-14, E002-16-18, F002-5, F002-7, F002-16, I009-24-27, I009-29, I009-35, I009-37, I009-41, I009-44, I010-40, I010-42, I010-43, I010-45, I012-71, I013-156, I013-182, I013-210, I013-212, I013-213, I013-217, I015-29, I015-31, I015-32, I024-6)
HMP (I006-8)
Infiltration (General Comments-6, D002-6, H001-9, H001-10, I012-68-74, I012-78, I012-79, I013-134, I013-135, I013-202, I013-206, I015-28)
Interior Board of Land Appeals (E001-16, E001-55)
Interstate Highway 8 (E001-55)
Irreversible and Irretrievable Resource Commitments (E001-20, E001-26, E001-47, I004-9, I004-13, I004-16, I013-185, I013-190, I013-196, I013-197, I015-25)
Landfills (E001-53, E001-54, I015-26)
Leach Pad (F002-10)
Lighting (General Comments-6, E003-4, F002-13, I009-21, I013-195, I013-198, I015-30, J008-Effects of Lighting on Wildlife (General Comments-10)
Marine Corps Air Station, Yuma (E001-39, I009-45, I009-46)
Mesquite Mine (E001-19, E001-30, E001-32, E001-39-47, E001-49-52, E002-38, E002-42, F002-5, F002-12, I002-33, I004-9, I004-11, I010-47, I012-69, I013-157, I013-165, I015-25, I015-26, J003-9, J003-10)
Mesquite Regional Landfill (General Comments-6, E003-4, F002-13, I009-21, I013-195, I013-198, I015-30, J008-6)
Meteorological Data (F002-13)
Microphyll Woodland (E002-1, E003-3-5, I009-44)
Compensation Lands (E001-37, E001-40, E001-43, E002-28, F001-10, I006-7, I008-11, I009-45, I009-47, I010-42-44, I012-78, I013-149, I013-161, I013-168, I013-186, I013-220, I014-3, I015-32)
Microphyll Woodland Habitat (I006-7, I009-26, I013-148, I013-220, I013-224, I015-32)
Migratory Bird Treaty Act (J005-5, J005-6)
Mine Safety and Health Administration (General Comments-9, E001-25, E001-37, E002-7, E002-9, E002-10, E002-18, E002-31, E002-33, E002-37, F002-5, F002-8, F002-9, I002-30, I006-6, I008-11, I008-12, I013-157, I013-171-173, I013-194, I013-196, I013-197, I019-6)
Mining Claim Validity
Validity Exam (I006-6, I008-12)
National Backcountry Byways Program (General Comments-9, E001-25, E001-37, E002-7, E002-9, E002-31, E002-37, F002-8, F002-9, I002-30, I006-6, I008-11, I008-12, I013-157, I013-171-173, I013-194, I013-197, I019-6)
National Environmental Policy Act (E002-19, E002-20)
National Historic Preservation Act of 1966 (J003-9)
Advisory Council on Historic Preservation (I002-36, I010-38, I013-134, I013-147, I014-3)
Section 106 (I015-29)
National Pollutant Discharge Elimination System (Introduction-1, General Comments-10, A001-3, D002-6, D002-7, E001-15, E001-55, E002-10, E002-29, H001-9, I002-30, I002-32, I004-14, I004-15, I005-7, I006-6, I009-23-25, I009-28, I009-34, I010-39, I010-40, I012-65, I012-74, I013-134, I013-135, I013-141, I013-169, I013-172, I013-179, I013-181, I013-201, I015-27, I019-6, J006-5, J007-15, J029-3)
National Register of Historic Places (D002-7, H001-9, I012-65, I012-69, I012-78, I012-80, I015-27)

Native American (I009-22, I012-78, I012-79, I013-180, J007-15)
Colorado River Indian Tribes (I012-80)
Consultation (General Comments-5, D002-7, E001-54, I012-65, I012-78, I012-81, I013-Executive Order No. 13007 (E001-18)
First Amendment (General Comments-5, General Comments-6, A001-3, D002-6, H001-9, I012-66, I012-68, I012-71, I012-72, I012-74, I012-78, I012-79, I013-140, I013-141, I013-203, I013-206, I015-28)
Native American Religious Use (General Comments-5, General Comments-10, A001-3, D002-7, E001-54, I005-7, I009-43, I012-65-68, I012-73, I012-74, I012-78, I012-80, I012-81, I013-202)
Running Man (I012-66, I012-80, I012-81)
Sacred Sites (General Comments-5, D002-7, E001-54, I012-65, I012-78, I012-81, I013-202)
Noise (I005-7, I012-67)
Baseline Noise (D002-6)
Effects of Noise on Wildlife (I009-43)
Human Perception of Sound Levels (General Comments-6, D002-6, H001-9, H001-10, I012-68-74, I012-78, I012-79, I013-134, I013-135, I013-202, I013-204, I013-206, I013-222, I013-223, I015-28)
Noise Attenuation (General Comments-8, I005-7)
Noise Muffling Devices (General Comments-6, General Comments-7, General Comments-10, E001-16, F002-13, F002-16, I005-11, I005-12, I009-29-35, I009-39-43, I009-46, I009-47, I012-68, I013-157, I013-197-199, I013-213-215, I015-29, I015-30, I015-33-35, J007-15, J014-4)
Noise Restrictions (I005-11, I009-30)
Noise Sources (I009-39, I013-197-199, I013-214, I015-34)
Sensitive Noise Receptors (I013-214)
Northern and Eastern Colorado Ecosystem Management Plan
NECO Plan (I009-39-41)
Notice of Intent (I009-34)
Notice of Preparation (I009-42, I015-33)
Noxious Weeds (I005-11, I009-29-33, I009-40)
Occupational Safety and Health Administration (I009-42)
Odor Impacts (E001-37, I013-173, I019-5)
Ogilby Road (I013-136)
Overbuilt 92 kV/34.5 kV Transmission Line (I012-76)
Overbuilt 92 kV/34.5 kV Transmission Line Corridor (E002-34, I013-163, I013-164)
Overburden (I011-9)
Oxides of Nitrogen (I009-36)
NO2 (E001-20, E001-24, E001-29, E001-31, E002-12, E002-17, F002-7, F002-10, F002-11, F002-16, I009-24, I009-25, I009-27, I009-37, I009-43, I009-44, I010-43, I010-45, I013-192, I015-29, I015-31, I025-6)
NOx (E002-9, E002-17, E002-20, E002-21, F002-10, I009-29, I012-71, I013-203, I013-215)
Pad Liner (E002-9, I012-71, I013-203, I013-215)
Particulate Matter (I002-30)
PM10 (I011-10)
Perimeter Fencing (G001-3, G001-4, I009-27, I011-10)
Peter Kane Mountain (G001-3, G001-4, I011-9, I011-10, J005-6)
Phase I Environmental Site Assessment (E001-40-44, I015-25)
Picacho Mine (I010-42, I010-46, I011-7, I015-31, I015-33, J003-8, J014-4)
Picacho Peak (General Comments-9, G001-3, G001-4, I010-41-46, I011-8, I011-9, I015-31-33, J003-8, J003-9, J005-6, J014-4)
Picacho Peak Wilderness Area (I013-156)
Picacho State Recreation Area (I013-198, J007-15, J014-3, J014-4)
Pit Lake (I009-38)
Pit Water Balance (E001-40, E002-8, E002-21, E002-26, E002-28, E002-32, E002-33, E002-36, E002-37, E002-41, E002-42, F001-7, F001-10, I002-30, I002-34, I009-25, I009-26, I009-45, I009-47, I012-73, I012-75, I013-146, I013-147, I013-159-162, I013-165, I013-166, I013-168, I013-172, I013-192, I014-3, I015-32, J003-6, J003-9, J003-10, J010-4)
Precipitation Rate (I006-8, J008-6)
Pregnant Pond (I006-8, I025-6)
Prehistoric Trail (I005-12)
Processing Facility (E001-53, F001-6, I002-34, I002-35, I013-145, I013-148-152, I013-154, I013-178, I013-216, J018-5)
Public Safety (I013-150, I013-151, I013-153)
Purpose and Need (I009-26, I013-149, I013-153)
Quechan (E001-19, E001-30, E001-45-47, E002-16, F002-12, J003-6, J003-7, J003-11)
Fort Yuma Indian Reservation (General Comments-6, I012-74, I013-222, I015-28)
Quechan Cultural Committee (E001-50, E001-52, J008-6)
Radioactive Materials (General Comments-8, F001-7, I013-145, I013-156, I013-182, I013-200)
Rainfall (E001-15, I009-23, I013-134)
Rate of Recharge (A001-3, A001-1, D001-3, D001-1, D002-6, G004-1, H001-9, I006-8, I012-65-70,

I012-72-75, I012-77, I012-79-81, I013-206, I013-222, I013-223, J008-7, J023-4, Numerical Index-1-3, Author Index-5, Author Index-7, Agency and Organization Index-2)
Raven (G004-1, H001-9, I006-8, I010-46, I012-68, J008-7, J023-4, Numerical Index-1-3, Author Index-5, Author Index-7, Agency and Organization Index-2)
Reactive Organic Gases (G004-1, H001-9, Numerical Index-1, Author Index-2, Author Index-7, Agency and Organization Index-2)
Reclamation Plan (M001-7)
Recreational Resources (E001-19, E001-44, E001-45, E001-47, E001-49-51, E002-24, E002-26, E002-30, I002-34, I005-9, I013-148, I013-166, I013-168, I013-187)
  Dispersed Recreatonal Resources (I004-14)
  Recreational Users (E002-14, E002-15, E002-18, E002-19)
Revegetation and Monitoring Review Committee (I009-26, I011-9)
Road Repairs (E002-7, E002-8, E002-10, E002-18, E002-21-28, E002-30-41, F001-6, F001-9-13, I002-30-35, I005-8, I009-21, I009-22, I013-138, I013-141, I013-145, I013-158-163, I013-165, I013-168, I013-172, I013-223, I015-24, I024-7, J009-6, J010-4, J021-10)
Salton Sea (General Comments-7, F002-15, F002-16, I013-216, I013-217, I015-30, I015-31)
Section 2081 Permit (F002-15, I005-11, I013-216, I013-222)
Seedbank (I009-35, I009-42, I013-215)
Sensitive Species (E002-34, F002-10, F002-12, I005-8, I005-9, I013-197, I013-199, I013-214, J006-Short-Term Use (I013-169, I013-170)
Socioeconomic Effects (I009-24)
  Beneficial Socioeconomic Effects (I017-5, J009-Jobs (I004-12, I004-13, I014-4)
  Local Revenue (F001-12)
  Services (E002-34, E002-40, I024-7)
Soil Stockpile (E002-34, F002-10, F002-12, I005-8, I005-9, I013-197, I013-199, I013-214, J006-4)
Southern California Association of Governments (General Comments-10)
  Regional Comprehensive Plan and Guide (General Comments-7, I012-72, I012-73, I017-5)
Southern Pacific Railroad (I017-5, J009-6)
State Historic Preservation Officer (General Comments-7, I011-6, I012-72, I012-73, J010-4, J010-5, J023-4, N019-5)
Storm Event (I017-5)
Storm Water (General Comments-7, General Comments-8, General Comments-10, E001-50, E001-51, I009-36, I009-45, I011-6, I013-156, J003-12)
Stream Channel Diversions (E002-8, I010-45, I012-69)
Streambed Alteration Agreement (G003-1, G004-9, Numerical Index-1, Author Index-9, Agency and Organization Index-2)
Subsidence (G004-9, I012-65)
Success Criteria (I009-43)
Surface Management Regulations (I012-74, I012-78, I013-203)
Surface Mining and Reclamation Act of 1975 (E001-18, E001-26, E001-33, E001-47, E001-48, E001-50, E001-52, F001-11)
Tax Revenue (E001-17-20, E001-30, E001-32, E001-47, E001-48, E001-51)
  Property Taxes (I013-183)
  Sales Taxes (F001-12)
Threatened/Endangered Species (I009-28, J003-10)
Town of Felicity (E002-18, E002-24-27, E002-29-34, E002-36, I002-34, I013-165)
Toxic Air Contaminant (F001-6, I002-32, I013-140-142, I013-158, I013-215)
Traditional Cultural Property (E001-18, F001-6, I002-30, I013-169)
Traffic (E002-31, F002-6-8, F002-10, F002-16, I005-11, I009-24, I009-25, I009-27, I009-28, I009-31, I009-33, I009-43-45, I010-40, I010-43, I010-45, I012-71, I013-198, I015-29, I015-U.S. Army Corps of Engineers (I012-73)
U.S. Fish and Wildlife Service (I009-24, I011-6, I017-5, I024-7)
U.S. Geological Survey (I009-24, I011-6)
U.S.Environmental Protection Agency (I010-39)
Undue Impairment (F002-1, G001-3, G001-4, G002-1, G003-4, I013-215, Numerical Index-1, Author Index-5, Agency and Organization Index-2)
Unnecessary or Undue Degradation (I011-8)
Utilities (I013-206)
Vadose Zone (E002-31, F002-6-8, F002-10, F002-16, I005-11, I009-24, I009-25, I009-27, I009-28, I009-31, I009-33, I009-43-45, I010-40, I010-43, I010-45, I012-71, I013-198, I015-29, I015-31)
Visual Resources (E001-25, E001-33, E001-34)
  Visibility Reduction (E002-10-12, F002-5-7, F002-10-12, I003-2, I005-9, I006-7, I010-39, I010-40, I013-163, I013-164, I013-173, I013-195, I013-200, I013-214, J017-3)
  Visual Character (F001-10, G002-7, G002-8, I004-13, I004-15, I009-47, I013-185)
  Visual Contrast (E001-16, E001-33-35, E001-39, E001-41, I005-11, I009-40, I010-43, I010-45, I010-46, I011-7, I015-33-35, M001-7)

Visual Effects (I002-36, I009-22, I010-35, I010-36, I010-38, I012-72, I013-147, I013-180, I014-4, I015-27)
Visual Resource Management (A001-3, I002-36, I010-35-39, I012-72, I013-147, I014-4, I019-5, I027-3)
Volatile Organic Compounds (General Comments-7, General Comments-8, General Comments-10, I011-6)
Washes (E001-42-44)
Waste Characterization Study (General Comments-6, General Comments-9, I013-211, I013-212, I013-217, I025-6)
Waste Rock (I015-31, I015-32)
Watershed (General Comments-6, General Comments-10, I009-29, I013-217)
Wilderness Area (General Comments-6, F001-11, I005-12, I009-29, I013-212)
Wilderness Study Area (E001-16, F001-11, G001-5, I005-12, I009-47, I015-32, I025-6)
Wind Patterns (I013-211)
Winged Cryptantha (I009-26, I011-9)
Worker Health and Safety (E001-17-20, E001-22, E001-25-27, E001-30, E001-32-34, E001-36, E001-48, E001-52, E002-7-10, E002-16, E002-22, E002-31, E002-33, E002-35-37, F001-10, F002-8, I004-10, I004-13, I004-14, I005-8, I008-11, I008-12, I009-26, I009-28, I013-163, I013-167, I013-172, I013-176, I013-183, I013-184, I013-194, I013-196, I013-197, I013-216, I013-217, I015-25, I019-6)
"Storage Capacity" (I008-13)